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Abstract
The U.S. economy, although slowing from its recent robust rates of growth, continues to produce historic budget surplus. For fiscal year 2001, the Congressional Budget Office (CBO) estimates that higher revenues linked to the growing economy will continue to outstrip spending and push the total budget surplus (including the off-budget Social Security trust funds) to $281 billion. That surplus would be the largest in history in nominal dollars and the largest since 1948 as a percentage of gross domestic product (GDP). It would also mark the first time in over a century that rising surpluses were recorded for four consecutive years. Over that span, surpluses would total more than $700 billion and federal debt held by the public would fall by roughly the same amount. CBO expects the current slowing in the economy to be short-lived and over the next 10 years projects rates of economic growth that will continue to produce rising surpluses under present policies. Under CBO's projections, those surpluses will be large enough in a few years to retire all public debt that is available for redemption.

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Unless otherwise indicated, all years referred to in this report are fiscal years.

Numbers in the text and tables may not add up to totals because of rounding.

Preface

This volume—part of the Congressional Budget Office's (CBO's) annual report to the House and Senate Committees on the Budget—is intended to help inform policy-makers about options for the federal budget. The report presents a broad range of possibilities, focusing on the effects of paying down the debt, options to cut spending or to increase it, and options to cut taxes or to increase revenues.

The broad proposals and specific policy options addressed in this volume come from many sources. In keeping with CBO's mandate to provide objective and impartial analysis, the discussion of each proposal or option presents the cases for and against it. The inclusion or exclusion of a particular idea does not represent an endorsement or rejection by CBO. As a nonpartisan Congressional agency, CBO does not make recommendations about policy.

The report begins with an introduction that discusses how the emergence of large surpluses has transformed the budget debate, presents rationales for the budget options presented, and explains how to use this volume. Part One (Chapter 1) looks at the costs and benefits of paying down federal debt held by the public. Part Two (Chapters 2 through 5) examines options for spending. Chapter 2 is a broad discussion of proposals that would expand federal programs for retirement, health, and education. Chapter 3, in similar fashion, discusses proposals that would increase spending for physical capital and information. Chapter 4 provides an overview of defense spending and presents specific options to increase or decrease it. Chapter 5 includes numerous options to cut nondefense spending, organized by the functional categories of the budget—international affairs; general science, space, and technology; and so on. Each functional category is introduced by a page of background information about recent spending trends in that function. Part Three (Chapters 6 and 7) looks at revenue options. Chapter 6 presents a broad discussion of significant proposals for cutting taxes. Chapter 7 contains specific options for increasing revenues, which follow the one-page format used in Chapter 5. Appendix A discusses the usefulness of agencies' reports under the Government Performance and Results Act for assessing budget options. Appendix B contains the scorekeeping guidelines used to enforce the requirements of the Budget Enforcement Act of 1990 (as amended). Appendix C lists contributors to this report.

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Director

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Introduction

The U.S. economy, although slowing from its recent robust rates of growth, continues to produce historic budget surpluses. For fiscal year 2001, the Congressional Budget Office (CBO) estimates that higher revenues linked to the growing economy will continue to outstrip spending and push the total budget surplus (including the off-budget Social Security trust funds) to $281 billion. That surplus would be the largest in history in nominal dollars and the largest since 1948 as a percentage of gross domestic product (GDP). It would also mark the first time in over a century that rising surpluses were recorded for four consecutive years. Over that span, surpluses would total more than $700 billion and federal debt held by the public would fall by roughly the same amount. CBO expects the current slowing in the economy to be short-lived and over the next 10 years projects rates of economic growth that will continue to produce rising surpluses under present policies. Under CBO's projections, those surpluses will be large enough in a few years to retire all public debt that is available for redemption.

The emergence of large surpluses has transformed the budget debate in this country. Dominated for decades by the problem of how to control persistent deficits, that discussion now centers on questions of how to use record surpluses—whether to devote them to paying down the debt, increasing spending, cutting taxes, or some combination of those three broad options. Initially, the debate over surpluses was muted by lawmakers' pledge to ensure that total budget surpluses equaled or exceeded those credited to the off-budget Social Security trust funds—a step intended to dedicate those off-budget surpluses to paying down debt. But the appearance in fiscal year 2000 of the first large on-budget surplus ($86 billion) and recent projections that show such surpluses to be not only sustained but growing during the following 10 years have intensified the debate over what to do with those funds. In fact, the recent Presidential and Congressional election campaigns focused in large part on the issue of how best to use the burgeoning surpluses, and that issue is likely to be central to consideration of the budget in the 107th Congress.

Yet despite the current budgetary prosperity and favorable outlook for the near future, uncertainties remain. The budget outlook for the next 10 years is based on economic and other assumptions that could prove to be wrong. In addition, that outlook does not reflect the major budgetary pressures that loom just beyond the 10-year budget horizon.

CBO's projections of growing surpluses depend largely on continued high levels of revenues spurred by the growing economy. Should that economy, which has already seen the longest expansion on record, perform below expectations, total revenues and surpluses would be smaller. A substantial economic downturn that lasted for some time could lower revenues dramatically, increase spending, and reduce or even eliminate surpluses altogether. Further, CBO's budget projections reflect current laws and policies, which are likely to change over the 10-year projection period. After 2012, demographic shifts tied to the aging and retirement of the baby-boom generation will create demands for spending under current policies that are projected to generate both deficits and record levels of public debt before the middle of the century.

In today's promising but uncertain fiscal environment, lawmakers may find it useful to be informed about a broad range of budgetary choices. This volume discusses the three broad categories of

Table 1.
The Budget Outlook Under Current Policies (By fiscal year, in billions of dollars)

	Actual 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total, 2002-2011
On-Budget Surplus	86	125	142	171	196	212	267	316	359	417	484	558	3,122
Off-Budget Surplus[a]	150	156	171	188	201	221	238	257	276	294	312	331	2,488
Total Surplus	236	281	313	359	397	433	505	573	635	710	796	889	5,610
Debt Held by the Public	3,410	3,148	2,848	2,509	2,131	1,714	1,251	1,128	1,039	939	878	818	n.a.
Balance of Uncommitted Funds[b]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	28	466	1,003	1,608	2,338	3,164	n.a.
Net Indebtedness[c]	3,410	3,148	2,848	2,509	2,131	1,714	1,223	662	36	-669	-1,460	-2,346	n.a.
Memorandum:													
Social Security Surplus	152	157	172	188	202	221	238	257	276	294	312	331	2,490
Total Surplus as a Percentage of GDP	2.4	2.7	2.9	3.1	3.3	3.4	3.8	4.1	4.3	4.6	4.9	5.3	n.a.
Debt Held by the Public as a Percentage of GDP	34.7	30.5	26.2	21.9	17.7	13.5	9.4	8.1	7.1	6.1	5.5	4.8	n.a.

SOURCE: Congressional Budget Office.

NOTE: n.a. = not applicable.

a. Off-budget surpluses comprise surpluses in the Social Security trust funds as well as the net cash flow of the Postal Service.

b. CBO's term for the surpluses remaining in each year after paying down publicly held debt available for redemption. Uncommitted funds accumulate from one year to the next.

c. Negative net indebtedness means that the balance of uncommitted funds exceeds the remaining debt held by the public.

budget options that face lawmakers in this period of unprecedented surpluses: paying down the debt (Part One); options for spending, including enhancements and savings (Part Two); and options for revenues, including tax cuts and increases (Part Three). Each part centers on how the various policy alternatives might affect projected surpluses; however, many of the options also consider other budgetary rationales, such as reordering budgetary priorities, improving efficiency, or achieving other goals.

The Budget Outlook

CBO projects that under current policies and assumptions about the economy, total budget surpluses will continue to grow, summing to about $5.6 trillion from 2002 to 2011 (see Table 1). By 2006, surpluses would be large enough to pay off all publicly held federal debt available for redemption.[1] CBO's projections include large and growing on-budget surpluses totaling about $3.1 trillion over the next 10 years, as well as off-budget surpluses—which result almost entirely from the surpluses of the Social Security trust funds—accumulating to about $2.5 trillion. Off-budget surpluses alone would be sufficient to pay off the available debt by 2011.

1. Paying off available public debt does not mean that all outstanding federal debt will be eliminated. For example, some outstanding debt with longer maturities will not be available for redemption during the 2002-2011 period. See Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2002-2011* (January 2001), pp. 14-15.

CBO's projections of on-budget surpluses are based on certain levels of spending and revenues.[2] Discretionary spending (provided anew each year in appropriation acts) is estimated to grow at the rate CBO projects for inflation—a rate of growth lower than the increase in such spending since 1998 but higher than that for most of the 1990s. The projections assume no changes in mandatory spending (controlled in laws other than annual appropriation acts) or tax laws, which means, in part, that no new benefits are assumed to be added to existing entitlement programs and expiring tax breaks that are routinely extended are assumed to lapse. CBO projects that revenues will remain near historically high levels from 2002 through 2011, averaging just over 20 percent of GDP each year.

The favorable outlook for the next several years, however, is subject to considerable uncertainty. CBO's budget projections are based on economic forecasts that could turn out better or worse than expected; in addition, current budget policies are likely to change. Under alternative economic assumptions that are also reasonable, surpluses several years from now would differ from CBO's current projections by hundreds of billions of dollars a year.[3] Substantial new spending or tax cuts, in the absence of offsetting savings, could erode projected surpluses.

Since 1997, economic growth has outpaced expectations and led to significant upward revisions in CBO's projections of future surpluses. Those revisions have dwarfed the spending and revenue effects of legislation enacted during the same period, including comparatively sizable increases in annual appropriations since 1998.[4] Whether future budget projections will continue to outstrip current expectations and show even larger surpluses depends on at least two factors: whether a strong economy continues to produce federal revenues at a record clip and whether lawmakers enact major spending hikes or tax cuts of the type that were vigorously debated during the recent election campaigns.

2. For a discussion of the baseline concept, see *The Budget and Economic Outlook*, pp. 5-7.

3. See Chapter 5, "The Uncertainties of Budget Projections," in Congressional Budget Office, *The Budget and Economic Outlook*.

4. See Congressional Budget Office, *The Budget and Economic Outlook: An Update* (July 2000), p. 7.

Rationales for Budget Options

The broad options for using on-budget surpluses—paying down the debt, increasing spending, and cutting revenues—highlight a more fundamental choice facing lawmakers. Should on-budget surpluses be saved or consumed? Yet even that basic choice does not encompass the full range of budgetary decisions that lawmakers confront. Although surpluses may widen policy options, they do not by themselves justify more resources for federal programs or other activities, especially those that are ineffective, inefficient, or unnecessary. Even with a bright budget outlook in the near term, lawmakers continue to face significant choices and trade-offs among competing budgetary priorities.

Paying Down the Debt

Although the budget's near-term outlook is favorable, the aging of the population and the continued growth of health costs over the next several decades will bring about major structural shifts in the federal budget, substantially increasing the amount of resources directed toward programs for the elderly. CBO projects that spending on Social Security, Medicare, and Medicaid (which finances long-term care and other health benefits for low-income people, including the elderly) will more than double as a share of GDP, climbing from 7 percent in 1999 to almost 17 percent in 2040. And unless current policies change, substantial budget deficits will reemerge during that period, CBO projects.[5]

Saving budget surpluses to pay down federal debt held by the public is a policy option that has attracted considerable attention from policymakers and others (see Chapter 1). Public debt has fallen from about 50 percent of GDP in 1995 to about 35 percent in 2000. Continuing to reduce that debt could provide additional economic benefits and enhance policymakers' flexibility in dealing with the fiscal implications of an aging population. It could also help prepare the United States for unexpected events

5. See Congressional Budget Office, *The Long-Term Budget Outlook* (October 2000).

that might create new demands for goods and services. Paying down public debt could expand the nation's pool of savings, boost the capital stock, and raise GDP. Over time, the economy could be larger, and a greater fraction of the income it produced could be available to U.S. residents for consumption. As a result, future workers could be better able to bear the heightened burden of a graying population.

Although paying down the debt offers long-term economic benefits, it implicitly requires current generations (who will increase the size of the over-62 population by nearly 40 million from 2010 to 2040) to forgo tax cuts or spending increases. Paying down public debt could also require investors to find alternative financial instruments to replace the Treasury securities that principally make up the debt. If the government continued to run budget surpluses after available debt was paid off, it could eventually accumulate a large stock of private assets, raising important questions about the government's involvement in private businesses.

Spending Options

Some lawmakers support using on-budget surpluses to increase federal spending in high-priority areas. In particular, numerous proposals have focused on providing retirement income, health insurance, and education (see Chapter 2). Surpluses offer an opportunity to expand federal support of new initiatives in those areas, conferring potentially significant benefits but costing billions of dollars. However, the vulnerability of Social Security and Medicare to increasing cost pressure over the coming decades has also prompted spirited debate over long-term restructuring of those programs.

A period of fiscal strength also provides an opportunity to consider spending more on physical capital, scientific research, and federal information activities (see Chapter 3). Such investments can redistribute the benefits of a prosperous period over a longer span of time—or even help sustain and extend the prosperity itself. Of course, not all expenditures that are future-oriented (or characterized as such) have an adequate payoff down the road.

Many lawmakers support using a portion of the on-budget surpluses to provide additional resources for national defense. During the 1990s, following the collapse of the Warsaw Pact and the dismantling of the Soviet Union, federal spending for defense fell by about 25 percent in real (inflation-adjusted) terms. As the Soviet threat disappeared, however, the missions of the military services were redefined, with a much greater emphasis on using the armed forces for smaller-scale contingencies (such as overseas peacekeeping and police functions). Some lawmakers are concerned that the current defense budget is too low to allow the Department of Defense to carry out those new missions and still purchase the equipment needed to sustain U.S. forces in the long run. They favor restoring some of the post-Cold War cuts to help offset those burdens and improve the military's readiness (see Chapter 4).

A period of surpluses and the opportunities they offer for increased spending do not keep lawmakers from having to make trade-offs among budget priorities or to reorder those priorities. And if the budget outlook sours, lawmakers may need options for cutting spending to help preserve surpluses or to achieve other budgetary goals. For example, proposals to substantially increase funding for high-priority discretionary programs such as education and defense may have to be offset with savings elsewhere in the budget if lawmakers decide to preserve the on-budget surpluses projected under CBO's baseline. (Chapter 4 presents options for cutting defense spending, and Chapter 5 details ways to cut nondefense outlays.)

Savings may be necessary for another reason as well. The budget enforcement framework that has governed budgetary decisionmaking for the past decade—consisting of the annual limits on discretionary appropriations and the pay-as-you-go requirement for new mandatory spending and revenue laws —expires at the end of fiscal year 2002. In the 107th Congress, lawmakers face the question of whether or how to extend those disciplines. Budgetary savings may be needed to help lawmakers comply with a new or revised budget enforcement framework.

A component of such a framework may be one of the various "lockbox" proposals that lawmakers considered during the last Congress. In general, lock-

box procedures are intended to prohibit the Congress from acting on legislation that would lower projected surpluses below specified levels. Offsetting savings may be needed to help meet those targets. A lockbox has been proposed to help policymakers follow through on their commitment to preserve off-budget Social Security surpluses; one has also been proposed to preserve portions of projected on-budget surpluses for Medicare and for additional debt reduction. Lockbox proposals may be high on the legislative agenda of the 107th Congress.

Options to reduce spending may also help achieve policy or programmatic goals whose primary intents differ from or have a broader scope than enacting budgetary savings. For example, some of the options in this volume could be used to reduce the size of government, limit its rate of growth, or scale back activities for which a federal role is questioned. Other alternatives would enable lawmakers to restructure programs to achieve their goals at a lower cost or eliminate programs that may have outlived their usefulness or achieved the purposes for which they were created. In some cases, changing conditions may lead to different budgetary priorities and a shift in funding from one program to another. For example, changes in defense strategy in the post-Cold War era may lead lawmakers to reduce resources for defense activities or operations that are viewed as outmoded, even as defense spending may be increased in other areas to meet new or different threats.

Some ideas for reducing programs' costs may come from performance reports required by the Government Performance and Results Act of 1993 (GPRA). GPRA directs federal agencies to establish goals for their performance and criteria for measuring progress toward those goals. The act further states that information about performance is to be incorporated in the budget process to enable lawmakers to better allocate budgetary resources. CBO attempted to use GPRA-generated information from agencies to evaluate the options in this volume. However, it found little help for that exercise in the agencies' first reports—specifically, those issued in March 2000. (Appendix A discusses GPRA and CBO's analysis in more detail.)

Revenue Options

In an environment of budget surpluses, some lawmakers believe that the overall tax burden should be eased. In recent years, proposals for broad-based tax cuts have been actively debated and were a principal focus of the 2000 election campaign. (Chapter 6 describes the tax system and discusses some of those proposals.) But lawmakers may also need options that increase revenues to help improve the functioning of the tax system, craft a consensus on overall budget priorities, make trade-offs, or achieve other budgetary goals (see Chapter 7).

The criteria for inclusion of revenue options in this volume are the three goals that guide the federal tax structure: efficiency, fairness, and simplicity. Efficiency demands that taxes distort behavior as little as possible, consistent with other objectives. That criterion often requires comparable taxation of alternative economic activities, and some revenue options would eliminate tax provisions that favor some forms of activity over others. For example, limiting the exemption for employer-paid health insurance premiums would reduce the differential tax treatment of cash and noncash compensation. Other options would correct inefficiencies that may occur in private markets by imposing taxes on undesirable activities. Taxing the emission of toxic water pollutants, for example, would encourage firms to reduce their emissions in a cost-effective manner. Another type of option would alter tax provisions whose desirable goals could be achieved more effectively in a different manner. For example, limiting to $300,000 the amount of mortgage principal that is eligible for the interest deduction would continue to encourage home ownership but at a lower cost in lost revenues.

Fairness requires that taxpayers in similar economic circumstances pay similar taxes—a principle known as horizontal equity—or that the tax burden be distributed among the various classes of income in conformance with the wishes of policymakers—vertical equity. An option that would improve horizontal equity, for example, would make investment income from life insurance and annuities taxable, thus treating those forms of income in the same way as income from other sources, such as bank accounts,

taxable bonds, and mutual funds. Other options would adjust vertical equity: phasing out the child and dependent care credit, for example, would make the income tax more progressive by raising the average tax rates of higher-income taxpayers.

Lessening the tax system's complexity would reduce its administrative costs as well as the costs of compliance for taxpayers. Eliminating the alternative minimum tax, for example, would simplify the preparation of income tax returns for many taxpayers. Similarly, standardizing the ranges of income over which certain tax preferences phase out would reduce the calculations required to determine a taxpayer's eligibility for such preferences.

Using This Volume

The three parts of this report correspond to the broad alternatives proposed for using the surplus. Part One (Chapter 1) discusses the option of saving the surpluses to pay down the debt. Part Two (Chapters 2 through 5) describes spending options—both those that would boost federal spending for high priorities and those that would cut spending to help preserve the surplus or to offset the cost of new initiatives, reorder federal priorities, or serve other goals. Part Three focuses on revenue options. Paralleling Part Two, it presents options that would lower the tax burden for broad classes of taxpayers (Chapter 6) and options that would increase revenues to help save surpluses or achieve budgetary savings that might be needed for other purposes (Chapter 7).

Part One

This part of the volume discusses the benefits and costs of paying down federal debt held by the public. It also describes historical trends in federal debt, the relationship between long-term budgetary pressures and projected levels of debt, and the effects of debt reduction over the long term.

Choosing the path of reducing the debt does not imply a particular course of action or that there will be no changes in current spending or revenue policies. Indeed, if lawmakers choose to increase spending or cut taxes significantly and if the record levels of revenues seen in recent years begin to subside, they may have to make other budgetary trade-offs if they wish to preserve surpluses and continue reducing the public debt. The options for reducing spending or increasing revenues in Chapters 4, 5, and 7 may help them achieve those goals.

Part Two

Part Two discusses spending options. In general, it is divided into separate chapters that describe policy changes that would increase spending and specific options to cut costs.

Chapters 2 and 3 address a number of major proposals that have been actively debated and that would significantly change federal spending:

- Chapter 2 treats proposals that would boost resources for a variety of federal programs for retirement, health, and education. The changes proposed include ways to increase retirement income, expand Medicare benefits, subsidize the purchase of health insurance for people under age 65, and expand federal funding for education. The proposals generally involve substantial increases in federal spending; some would also impose federal mandates on the private sector and on state and local governments. The chapter also describes policies that could address the long-term budgetary pressures faced by Social Security and Medicare.

- Chapter 3 discusses proposals that would increase federal spending for capital investment (such as transportation and water systems), civilian research and development, and federal financial management and statistics.

Some of the proposals noted above would be relatively complicated to carry out. The chapters are intended to provide a basic understanding of broad policy areas and consequently do not include detailed cost estimates. Instead, they offer a context for lawmakers and others as the budget debate proceeds, providing background information and some perspectives on the proposals, evaluating their potential

scope and effects, and indicating the magnitude of possible budgetary consequences.

Chapter 4, following the format of CBO's March 2000 report on defense budget options, presents an overview of specific alternatives that could be used to increase or decrease defense spending.[6] In general, the options to increase spending would provide funding to restructure military forces, modernize weapons, and improve readiness, equipment, and the quality of life of military personnel. The options to reduce defense spending would produce budgetary savings that could be used to fund new defense initiatives, shift defense priorities, or achieve other purposes. The alternatives in the chapter include estimates of annual costs or savings for each of fiscal years 2002 to 2006 and cumulative estimates for that five-year period and for the 10-year period ending in 2011. In general, those estimates are measured against the most recent Department of Defense plan as modified by lawmakers in enacting appropriations for fiscal year 2001.

Chapter 5 presents specific nondefense options that would produce budgetary savings. They are classified according to the appropriate functional categories of the budget—international affairs (150), general science, space, and technology (250), and so on. For each function, an introductory page provides summary information and data since 1990 on overall trends in mandatory and discretionary spending within that function. Each option provides some general background, discusses the pros and cons of the proposal, identifies whether it affects mandatory or discretionary spending, and estimates the annual savings for the 2002-2006 period. Cumulative savings are summed both for that five-year period and for the 10-year period that ends in 2011.

The spending options in Chapters 4 and 5 are numbered individually and include, where appropriate, references to related options in the volume and to relevant CBO publications. They are numbered according to the budget function into which they are grouped. For instance, defense options are numbered 050-01, 050-02, and so on. Closely related options are grouped together under a single number, with individual options identified by a letter suffix. As an example, option 050-16-A would reduce U.S. forces to the levels of the second Strategic Arms Reduction Treaty (START II) by 2004; option 050-16-B would reduce nuclear delivery systems within START II's overall limits.

The projected savings for mandatory spending options are computed from baseline levels estimated to occur under current law. Savings for discretionary spending options are calculated from two baseline levels: current appropriations for 2001 and that level adjusted for inflation. New or increased user fees may be classified as offsets to spending (offsetting receipts or collections) or as new revenues (governmental receipts).[7]

Part Three

Part Three discusses revenue options. It is divided into a discussion of broad options that would reduce revenues (Chapter 6) and specific options that would increase them (Chapter 7).

Paralleling the format of Chapters 2 and 3, Chapter 6 contains a broad discussion of significant proposals for reducing taxes that have been actively debated and would be likely to have a sizable impact on the federal budget. It is meant to provide a basic understanding of major tax cut proposals, some context and perspective on their development, an evaluation of their possible scope and effects, and a general sense of the magnitude of possible budgetary outcomes. The discussion in Chapter 6 does not include detailed revenue estimates for the proposals; rather, it offers lawmakers and others a framework within which to consider revisions to the tax code that may be prompted by projections of surpluses and other factors.

6. Congressional Budget Office, *Budget Options for National Defense* (March 2000).

7. The term "user fee" is not a formal budget category. It is an informal term that generally refers to collections from individuals or entities that benefit from or are regulated by some federal program; the collections are used solely to support that program. In general, if the fee supports a business-type activity, it is classified as an offset to spending. If it is based on the government's sovereign power to tax, it is classified as a revenue. User fees classified as spending offsets may be further categorized as either mandatory or discretionary, depending generally on the type of spending legislation in which the fee is included.

The options for specific revenue increases in Chapter 7 follow the format used in Chapter 5 for options to reduce spending. The revenue options are individually numbered and include references to related options elsewhere in the volume and to applicable CBO publications. Each option includes some general background, the pros and cons of the proposal, estimates of the annual revenue increase in 2002 through 2006, and the cumulative increase both for that five-year period and for the 10-year period that ends in 2011. The estimates are computed from baseline levels projected under current law.[8]

Budget Options on the Web

Like CBO's other reports, this *Budget Options* volume is available on CBO's Web site (www.cbo.gov) in multiple formats. In addition, an "interactive" version on the site offers enhanced search capability. That version allows users to search the entire volume by word or phrase. For the specific, numbered policy options in Chapters 4, 5, and 6 (including, respectively, options to reduce or increase defense spending, to cut nondefense spending, and to increase revenues), users may search by spending category (discretionary or mandatory), by budget function, and by federal agency. Those searches may be performed singly or in combination and may also be joined with searches by word or phrase. Users may also search, by budget function or word or phrase, the introductory pages in Chapters 4 and 5 that provide tables showing historical spending trends for each budget function.

Limitations of This Volume

The broad budgetary proposals and specific options discussed in this volume stem from various sources. They are derived from legislative proposals, Presidential budgets, past CBO options volumes, Congressional and CBO staff, other government entities, and private groups. The proposals and options are intended to reflect a range of possibilities; they are neither ranked nor comprehensive. The inclusion or exclusion of a particular proposal or option does not represent an endorsement or rejection by CBO. As a nonpartisan Congressional staff agency, CBO does not make policy recommendations.

Because the savings options in this volume are also intended to facilitate the case-by-case review of individual programs, they exclude certain types of governmentwide options that would produce savings in many programs or agencies. Such options would, for example, freeze or cut federal spending across the board or eliminate an entire department or major agency.

Some of the options affecting state, local, or tribal governments, or the private sector, may involve federal mandates. The Unfunded Mandates Reform Act of 1995 establishes procedures that are intended to control such mandates and requires CBO to estimate the costs of mandates imposed by new legislation that the Congress is considering. Individual options in this volume do not identify potential mandates or estimate their cost.

In calculating costs or savings for the individual options, CBO did not include changes in federal interest costs. Interest costs or savings typically are estimated as part of a comprehensive budget plan, such as the Congressional budget resolution, but such adjustments are not usually made for individual options of the type discussed in this volume.

Subsequent CBO cost estimates of legislative proposals that may resemble the options in this volume and subsequent revenue estimates by the Joint Committee on Taxation may not match the estimates shown in this report. For one thing, the policy proposals on which those later estimates are based may not precisely match the options in this volume. Further, the budget baseline estimates or levels against which the proposals ultimately are measured may have been updated and thus would differ from those used here.

8. For cost estimates of legislation that would amend the Internal Revenue Code, CBO uses estimates provided by the Joint Committee on Taxation. JCT estimated the increased revenue that would be collected as a result of all but three of the options in Chapter 7. For those options—REV-23, REV-24, and REV-25—CBO prepared the estimates.

Scorekeeping Guidelines

The Budget Enforcement Act of 1990, which established the limits on discretionary spending and the pay-as-you-go requirement, included formal scorekeeping guidelines to ensure that the budgetary effects of legislation would be measured consistently. Those guidelines are reviewed periodically by the "scorekeepers"—the House and Senate Budget Committees, the Office of Management and Budget (OMB), and CBO—who may revise them if all agree. Among other things, the guidelines specify how to score asset sales and lease purchases and how to treat legislation that crosses between the discretionary spending and pay-as-you-go enforcement categories (see Appendix B).

The guidelines, however, are subject to interpretation, and differing interpretations may affect how certain options are counted. OMB's estimates are final for the purpose of enforcing the discretionary spending limits or pay-as-you-go requirement. The estimates of CBO are advisory for those and other purposes but are generally used in the Congressional budget process.

Part One: Debt

Chapter One

Paying Down the Debt

Although the outlook for the federal budget is bright over the next 10 years, the aging of the U.S. population and the continued growth of health care costs will eventually cause major structural shifts in the budget and in the amount of resources directed toward the elderly. Spending on Social Security, Medicare, and Medicaid (which finances some health benefits for low-income elderly people) could more than double over the next 40 years as a share of the nation's income—climbing from 7.5 percent of gross domestic product (GDP) in 1999 to almost 16.7 percent in 2040. In addition, substantial budget deficits will reemerge during that period unless current policies are changed.

One policy option that has attracted considerable attention from policymakers and the public is saving annual budget surpluses and paying down the federal debt. Indeed, federal debt held by the public has already declined from about 50 percent of GDP in 1995 to about 35 percent in 2000.[1] Continuing to pay down that debt could provide additional economic benefits and give policymakers more flexibility to deal with the fiscal implications of an aging population. It could also help prepare the United States for unexpected events. By expanding the nation's saving, it could boost the stock of private capital and increase GDP. Over time, the economy could be larger, and a greater fraction of its income could be available for future consumption. As a result, future workers could be better able to bear the heightened burden of a graying population.

1. Federal debt held by the public is debt issued by the federal government and held by nonfederal investors. In this chapter, "debt" refers to debt held by the public, unless otherwise indicated.

The Congressional Budget Office (CBO) projects that in the absence of new legislation, budget surpluses would be sufficient by 2006 to pay off all of the federal debt available for redemption. What would happen to the budget after that? If current laws that control revenues and outlays remained unchanged, the government would begin to accumulate a stock of nonfederal assets (such as stocks and bonds), which could grow to almost $3.2 trillion by 2011. Such large investments by the federal government in the private sector would be unprecedented.

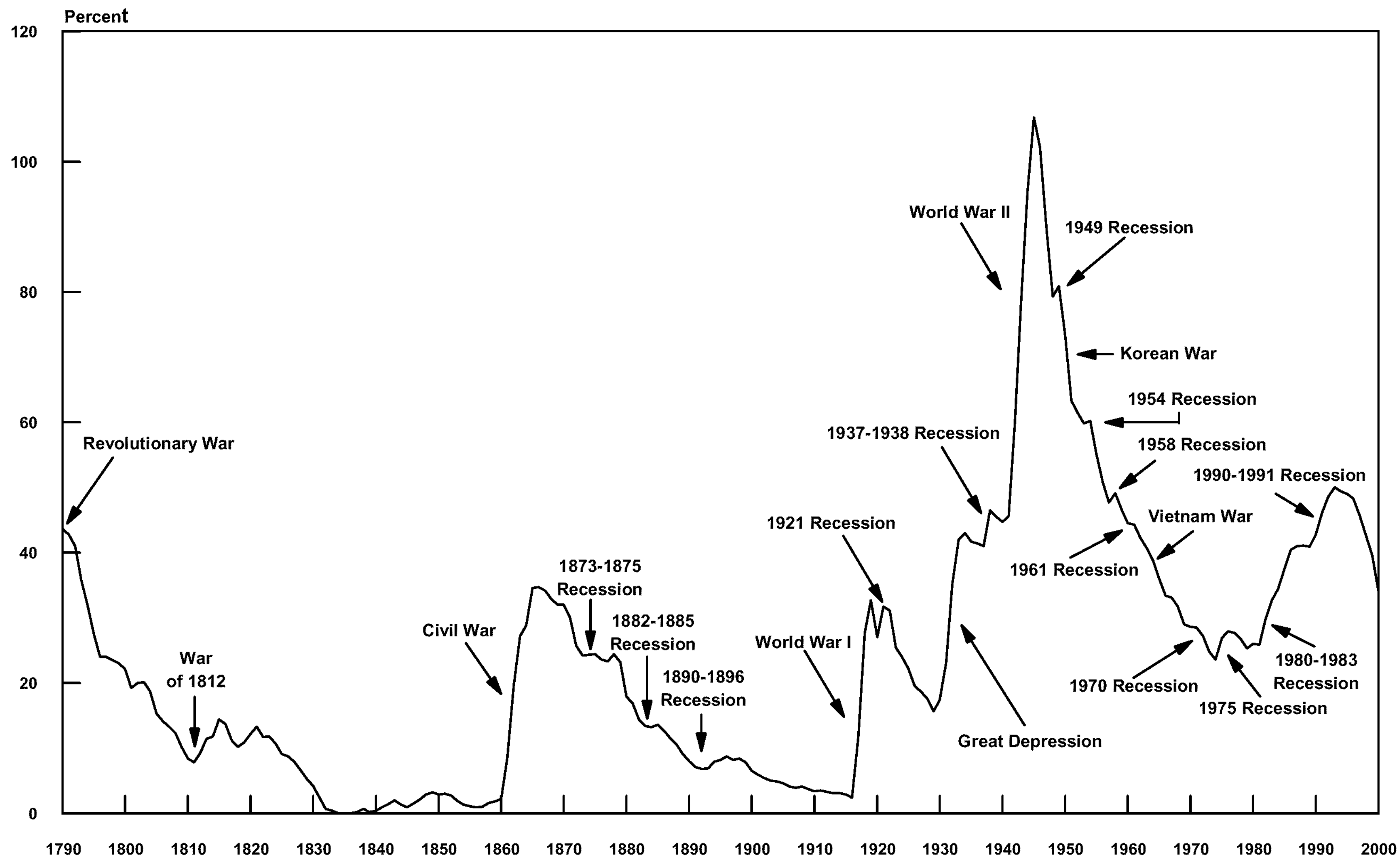
Trends in Government Debt

Whenever the federal government's total yearly expenditures exceed its total yearly revenues, the government runs a budget deficit. If the Treasury does not finance that deficit by drawing down its holdings of cash, gold, or other assets, the government has to borrow funds from the public. That additional borrowing increases the government's debt held by the public.

The situation is not unlike what happens when a family borrows on a credit card. The balance on the card is a debt, which carries finance, or interest, charges as long as the debt is outstanding. The family can reduce its debt by paying off more than it spends (including finance charges) each month.

Large budget deficits arise most often in periods of fiscal stress, such as times of war or during the Depression. Surpluses are more likely to appear in periods of prosperity, when tax revenues are high and the

Figure 1.
U.S. Federal Debt Held by the Public as a Percentage of Gross National Product, 1790-2000



SOURCE: Congressional Budget Office.

demands on social welfare and other programs are low. Deficits or surpluses result from government policies that govern spending and taxation, combined with the performance of the economy. The level of debt is the residual outcome of those policies over a period of many years. (For a brief history of federal debt, see Box 1.)

Sometimes, such as now, the debt itself becomes a focus of policy interest. Although the level of debt as a percentage of gross national product (GNP) has fallen from its recent peak in fiscal year 1993, it remains high relative to any period other than World War II and its aftermath (see Figure 1).[2] At the end of fiscal year 2000, total debt held by the public stood at $3.4 trillion, or about 35 percent of GNP. The unusually large peacetime deficits of the 1980s that contributed to federal debt gave rise to new policies to limit deficit spending. For example, the Budget Enforcement Act of 1990 established caps on discretionary spending; it also set up budgetary procedures that made it more difficult to pass legislation that reduced revenues or increased spending on mandatory programs.

Some other advanced nations have more-severe debt burdens than the United States does (see Figure 2). Their problems will be exacerbated as their populations age and their social security commitments become a heavier burden. In recent years, several European countries have actively sought to reduce their annual deficits and total debt in order to qualify for membership in the European Monetary Union. For its part, Russia is facing the adverse consequences of having defaulted on part of its debt.

Although the level of U.S. government debt has varied widely in the past, it is reasonable to assume that above some level, federal debt becomes a serious burden. Building up that debt transfers current costs to future taxpayers, who will have to pay interest on the debt. That may be an appropriate way to finance an extraordinary expenditure, such as a war, particu-

2. Figure 1 compares debt with gross national product rather than the more familiar gross domestic product because GNP is the measure used in the historical data. GNP measures the total income of all U.S. residents (including net payments for capital and labor income earned in other countries). GDP measures the income produced on U.S. soil. The difference between the two was about $10 billion in 1999.

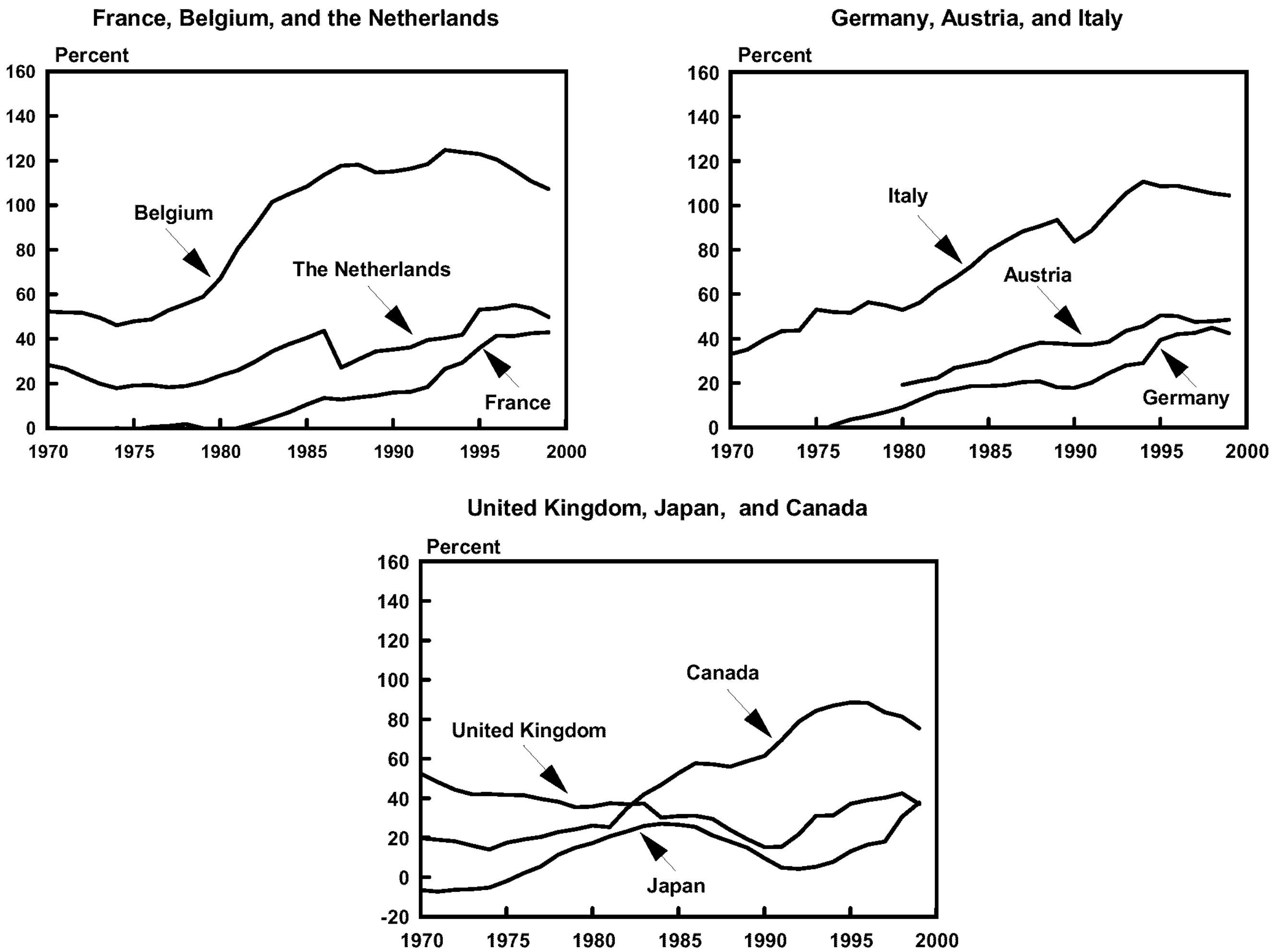
Box 1.
The History of Federal Debt

The United States began its life as a nation with a substantial debt—more than 40 percent of gross national product (GNP)—because in one of its first budgetary decisions, the new republic agreed to assume the Revolutionary War debt of the states in order to establish the creditworthiness of the federal government. Since then, the ratio of federal debt to GNP has generally fallen in peacetime and risen very sharply in times of war (as well as during the later stages of the Depression). Lesser economic disruptions—recessions—have tended to cause temporary deficits and slightly raise the ratio of debt to GNP, but in most cases they did not alter the general downward trend of that ratio in peacetime (see Figure 1). The debt ratio stabilized in the 1970s; it began to increase in the 1980s when large budget deficits emerged. Since 1995, however, it has fallen significantly. In 2000, the ratio of federal debt to GNP stood at 35 percent, down from about 50 percent in 1995.

During the 1830s, revenues from tariffs and land sales were sufficient to reduce federal debt nearly to zero. However, the federal government did not redeem all of its debt; instead, it began to accumulate assets (in the form of bank deposits), and by 1834, the value of the Treasury's deposits exceeded the value of its outstanding debt. By 1837, the federal government had so much revenue that it remitted substantial payments to the states. (Those payments were described as loans at the time, but they did not carry interest and were never repaid; they were the forerunners of today's federal grants to the states.) The debt remained low until the Civil War, when it shot up to almost 40 percent of GNP.

During the 20th century, debt reduction occurred for a variety of reasons. In the decade after World War I, fiscal discipline probably caused much of the reduction in the debt ratio. In the period after World War II, by contrast, the federal budget ran few surpluses and the decline in debt as a percentage of GNP came about largely from the growth of nominal GNP —reflecting strong productivity growth in the 1950s and 1960s and inflation in the 1970s. That postwar decline in the debt ratio was aided by the fact that much wartime borrowing had been on extremely favorable terms, so interest payments did not rise nearly as much as the debt. The most recent decline in debt as a share of GNP stemmed mostly from the extraordinary economic growth of the 1990s, which significantly boosted revenues. Reductions in defense spending and a slowdown in the growth of health care spending also contributed to reducing annual budget deficits.

Figure 2.
Net Government Debt of Selected Countries as a Percentage of Gross Domestic Product



SOURCE: Congressional Budget Office using data from the Organization for Economic Cooperation and Development.

NOTES: Net government debt is measured as the net financial liabilities of a country's general government, which consolidates central, state, and local government accounts, social security funds, and nonmarket, nonprofit institutions controlled and financed mainly by government units.

Conceptual revisions in the data series occur for the Netherlands in 1987 and 1995, for Germany in 1995, for Italy in 1990, and for the United Kingdom in 1984.

larly if it seems likely that future taxpayers will benefit from that expenditure. But even a moderate level of debt can be costly to maintain, both because of the interest that must be paid on it and because the debt tends to compete with and displace private capital, thus slowing the growth of the economy.[3] Determining the consequences of debt requires analyzing how it shifts the burden of taxation to different groups of taxpayers over time as well as balancing the various costs and benefits associated with it.

3. Interest payments on debt can impose costs on the economy as a whole because they may be financed by taxes that distort economic decisionmaking and reduce the efficiency of the economy. Those efficiency losses tend to rise disproportionately with the tax rate.

Long-Term Pressures on the Federal Budget

Over the next several decades, the federal budget will face pressure from three fundamental sources. First,

the large baby-boom generation will begin to reach retirement age in the next decade or so and become eligible to receive benefits from Social Security and Medicare. Baby boomers whose income is low enough will also qualify for benefits under Medicaid, which pays for long-term care and other services. Second, people will probably continue to live longer than they did in the past and spend a longer period of their life in retirement. Third, the advance of medical technology may put upward pressure on the costs of providing health care.

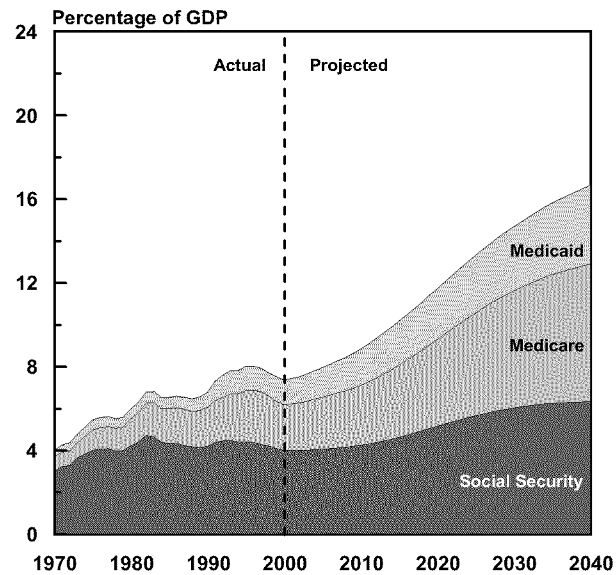
Those demographic and economic developments will significantly increase the number of retirees per worker and affect both federal spending and revenues. In 1960, the United States had 5.1 workers for each beneficiary in the Social Security program; today, the ratio is about 3.4 to 1. That figure is projected to fall to just 2.1 workers per beneficiary in 2040. As a result, the growth of federal spending for Social Security, Medicare, and Medicaid will speed up rapidly, while the growth of revenues will slow as older workers leave the labor force.

CBO's Long-Term Projections

What will happen to the budget and the economy if federal policies do not change in response to those demographic and economic trends? The Congressional Budget Office addressed that hypothetical question by developing projections for the budget under a wide variety of assumptions. CBO's long-term projections suggest that the share of GDP devoted to federal health and retirement programs will increase significantly and that a long-term imbalance between spending and revenues will probably emerge.[4] For example, under one midrange set of assumptions, spending on the major health and retirement programs will rise from 7.5 percent of GDP in 1999 to about 16.7 percent in 2040 (see Figure 3). That increase will have a major impact on the federal budget: spending for Social Security, Medicare, and Medicaid combined will climb from about 45 percent of federal outlays (excluding interest costs) in 1999 to about 70 percent in 2040 (see Figure 4).

4. See Congressional Budget Office, *The Long-Term Budget Outlook* (October 2000). Those long-term projections are based on the 10-year projections that CBO published in July 2000 and do not incorporate revisions to the 10-year projections published in January 2001.

Figure 3.
Spending for Social Security, Medicare, and Medicaid Under CBO's Midrange Assumptions, 1970-2040



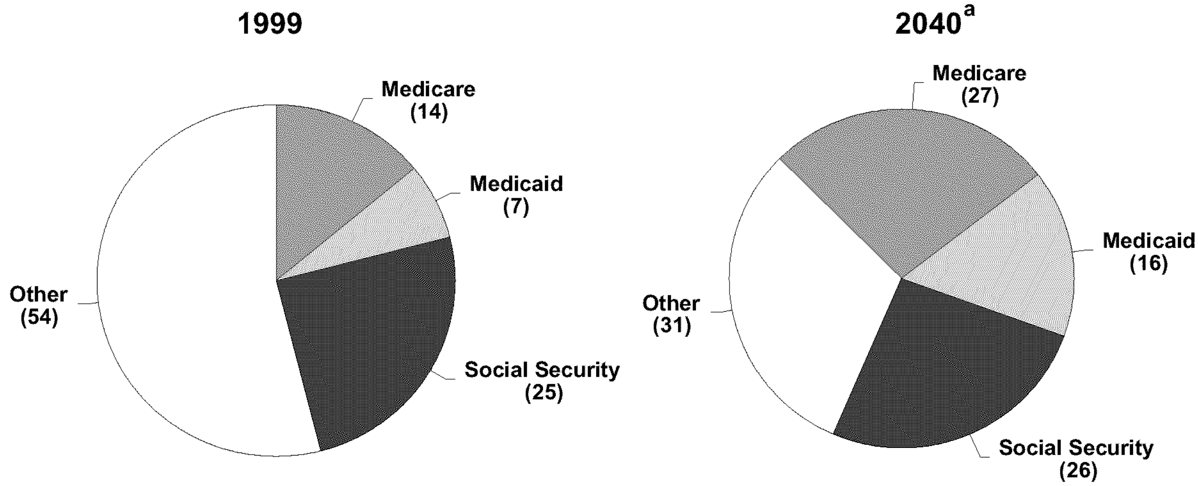
SOURCE: Congressional Budget Office.

NOTE: Spending is based on measures from the national income and product accounts. For details of CBO's midrange assumptions, see Congressional Budget Office, *The Long-Term Budget Outlook* (October 2000).

The rising share of spending for the elderly will affect the outlook for the federal budget surplus and debt held by the public. Although the outlook for the surplus is very positive over the next 10 years, fiscal pressures are likely to bring back deficits and eventually cause the federal debt to escalate as a percentage of GDP (see Figure 5). CBO also estimates that the increase in debt could significantly slow the growth of the economy. (CBO's projections focus on the balance of the total budget—not the Social Security or Medicare trust funds—because the trust funds by themselves do not illuminate the central economic issues relating to debt policy. See Box 2 on page 20 for details.)

As unfavorable as they seem, those projections could turn out to be too optimistic. Pressures are growing to increase Medicare spending through a new prescription drug benefit, increased payment rates for health care providers, or both.

Figure 4.
Spending for Social Security, Medicare, and Medicaid as a Share of Federal Noninterest Spending (In percent)



SOURCE: Congressional Budget Office.

NOTE: Spending is based on measures from the national income and product accounts.

a. Percentages in 2040 are based on the assumption that the off-budget surpluses in CBO's 10-year baseline projections are saved rather than used for spending or tax cuts. Most other assumptions about the fate of surpluses yield similar percentages.

Caveats About the Long-Term Projections

When assessing CBO's long-term projections, it is important to bear in mind that they are by their nature highly uncertain. They rely on demographic assumptions about future rates of mortality, fertility, and immigration; on economic assumptions about labor supply, saving, and productivity; and on budgetary assumptions about the future course of spending and taxes. The budget and the economy could turn out very differently than CBO expects today. Moreover, CBO's projections take into account some, but not all, of the potentially important interactions between the budget and the economy. (For example, they do not account for the effect of taxes on labor supply and saving.)

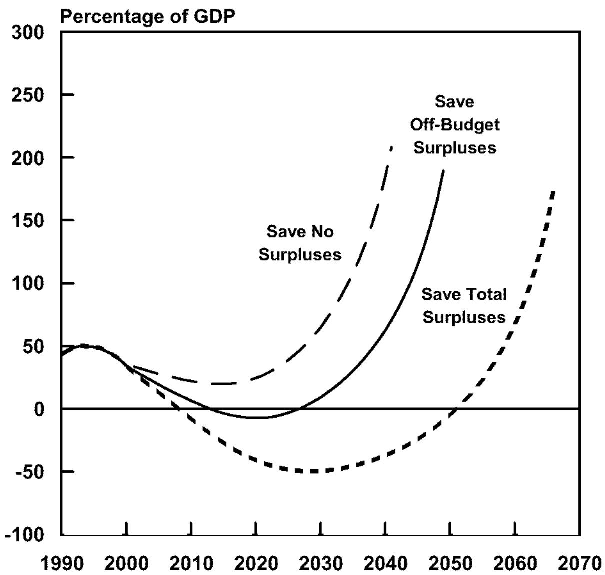
In addition, these projections are not predictions of what CBO thinks is likely to happen. Instead, the projections use simple assumptions to represent certain aspects of current policies and then illustrate what would happen if those policies were mechanically followed into the future. Of course, that is unlikely to occur: policymakers will surely modify tax and spending policies in the future. However, the projections provide a useful benchmark because they demonstrate that changes in policy will be necessary and they give a rough estimate of the magnitude of those changes.

The Importance of Economic Growth

How can policymakers respond to the challenge of rising demand for health and retirement spending? Certainly, one way is for the government to pursue policies that foster economic growth. Although growth cannot alter basic demographic trends, it can ease the burden of high program costs by making more resources available to workers and retirees.

Running budget surpluses and thus paying down federal debt is one way to foster economic growth because it increases national saving and makes more funds available for investment in business equipment, structures, and other types of capital. Other ways to promote growth include changing tax and regulatory policies to improve efficiency and to encourage peo-

Figure 5.
Projections of Debt Held by the Public Under Different Assumptions About Saving Surpluses



SOURCE: Congressional Budget Office.

NOTES: All of these projections use midrange long-term assumptions that are explained in Congressional Budget Office, *The Long-Term Budget Outlook* (October 2000).

Off-budget surpluses consist of the surpluses of the Social Security trust funds and the Postal Service. Under the "save off-budget surpluses" assumption, on-budget surpluses in 2000 through 2010 are zero, and off-budget surpluses match CBO's 10-year baseline for the off-budget accounts published in July 2000. Although CBO published a new 10-year baseline in January 2001, its projection of the off-budget surplus did not change much.

Under the "save no surpluses" assumption, the total surplus in each year from 2000 through 2010 is zero (an on-budget deficit offsets the off-budget surplus). Revising the assumptions to reflect CBO's 10-year baseline projections published in January 2001 would not significantly affect projections of debt under this assumption about surpluses.

Under the "save total surpluses" assumption, total surpluses (both on- and off-budget) in 2000 through 2010 match CBO's 10-year baseline for the total surplus published in July 2000. Using CBO's January 2001 baseline would substantially reduce the projected level of federal debt and increase the projected accumulation of nonfederal assets.

ple to work and save more, or increasing government spending on programs that are oriented toward investment rather than current consumption.

Yet economic growth is unlikely to eliminate budgetary imbalances by itself because it can also lead to increased spending on many programs. For example, under the current formula for determining Social Security benefits, higher wages eventually translate into higher benefits (although with a substantial lag). Thus, even though the nation might be wealthier, it would still face a sharp increase in the resources necessary to pay for Social Security after the baby-boom generation retired. As a result, policymakers will most likely face hard choices about budget policy even if economic growth is higher.

The Effects of Paying Down the Debt

Paying down the debt could offer significant benefits. It could reduce the amount of resources that would have to be spent on servicing the debt, increase capital investment, and boost economic growth; it could enhance economic efficiency by smoothing tax rates over time and could make it easier for future generations of workers to bear the burden of an aging population; and it could give future policymakers more flexibility to deal with the unexpected. Paying down the debt could also affect participants in financial markets and could raise questions about the government's ownership of private assets.

Macroeconomic Effects

Debt reduction could increase national saving and the nation's pool of funds for capital investment both at home and abroad.[5] Over time, the U.S. capital stock could grow larger and the nation could accumulate more net foreign assets. As investment in businesses' structures and equipment grew, workers would become more productive and earn higher wages. As a result, the United States could produce more goods

5. National saving would not necessarily rise dollar for dollar with an increase in the budget surplus because private savers might reduce their saving in response to the larger surplus. The reduction in private saving, however, would be unlikely to offset the surplus completely. See B. Douglas Bernheim, "Ricardian Equivalence: An Evaluation of Theory and Evidence," *NBER Macroeconomics Annual 1987* (Cambridge, Mass.: MIT Press, 1997), pp. 263-303; and Funio Hayashi, Joseph Altonji, and Laurence Kotlikoff, "Risk Sharing Between and Within Families," *Econometrica*, vol. 64, no. 2 (March 1996), pp. 261-294.

Box 2.
Trust Fund Accounting

Some analysts suggest that government trust fund programs offer a way to accumulate public savings. They point to the Social Security trust funds as an example. However, government trust fund accounting can often be misleading. Simply because surpluses are recorded in a particular government account does not necessarily mean that governmental actions have contributed to national saving. The overall budget deficit or surplus better indicates the federal government's potential contribution to saving.

The federal budget includes more than 150 trust funds. They vary widely in size and purpose, but the best known ones fall into two categories: trust funds for major benefit programs (such as Social Security, Medicare, unemployment insurance, and retirement programs for federal employees) and trust funds for infrastructure programs (notably, the Highway and the Airport and Airway Trust Funds).

The federal government's trust funds, including those for Social Security, are simply accounting mechanisms: they record the income from earmarked taxes; from transfers from the general fund; from spending for benefit payments, purchases, grants, and administrative expenses; and from interest that accrues when income exceeds spending. They do not necessarily record the amount of resources that have been set aside to fund their programs, because surpluses in the trust funds may be offset by deficits elsewhere in the budget.

For example, making transfers from the general fund to the Social Security trust funds would improve the apparent solvency of the trust funds. At the same time, however, those transfers would increase the liabilities in the rest of the budget. Because the transfers would be nothing more than intragovernmental accounting transactions, they would have no direct effect on the overall budget, nor would they contribute to national saving.

The transfers could have indirect effects on the budget if they changed people's perceptions about the Social Security program and altered future decisions by policymakers, but the direction of those effects is uncertain. On one hand, the transfers might help to package debt reduction in a more palatable form by moving a portion of the on-budget surplus into the Social Security trust funds. On the other hand, the apparent improvement in the actuarial solvency of Social Security could lull the public into a false sense of complacency and lessen pressure for making changes in the program now, when corrective action might be less difficult.

Ultimately, the government's ability to pay future commitments, whether they are Social Security benefits or some other payments, depends on the size of the economy—not on the balances attributed to various trust funds.

and services and have more resources available to support an aging population.

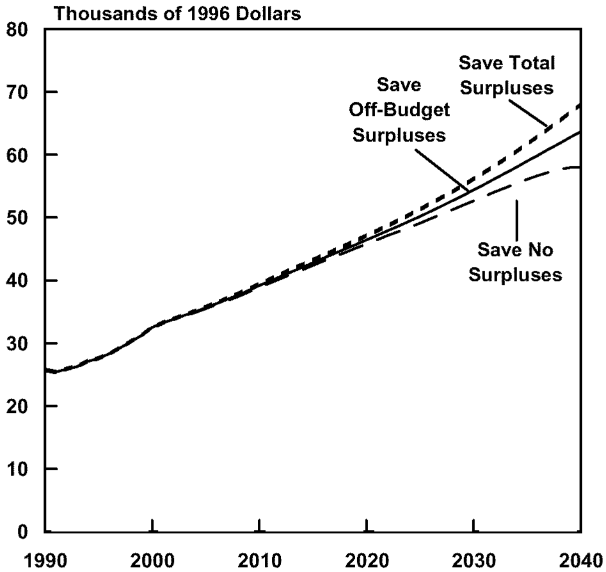
Different paths for government saving over the next decade could have significant long-term implications for economic growth. For example, if the projected off-budget surpluses (largely from Social Security) were saved over the next 10 years and used to pay down debt, national saving could increase, the capital stock could grow larger, and workers could become more productive. Under one seemingly reasonable scenario, real (inflation-adjusted) GDP per person could be about $5,500 (10 percent) higher by 2040 than it would be if those surpluses were used for additional government consumption of goods and services (see Figure 6).[6]

To achieve that higher level of future GDP, current generations would have to forgo some tax cuts or spending increases today. Indeed, that trade-off is the essence of debt reduction policy: by limiting consumption today, current generations can build a larger economy in the future, which will be able to support higher levels of consumption. Some of those gains in consumption could accrue to baby boomers in their retirement. However, unless debt reduction is used to shift some resources and consumption from current generations to future generations, it will not increase GDP permanently.[7]

6. That estimate is based on CBO's midrange assumptions for population, productivity, and medical costs. For details, see Congressional Budget Office, *The Long-Term Budget Outlook*.

7. Moreover, consumers who have access to capital markets and are forward looking will not reduce their current consumption and increase saving if policymakers simply shift the timing of their after-tax income.

Figure 6.
Real Gross Domestic Product per Capita Under Different Assumptions About Saving Surpluses



SOURCE: Congressional Budget Office.

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Under the "save total surpluses" assumption, total surpluses (both on- and off-budget) in 2000 through 2010 match CBO's 10-year baseline for the total surplus published in July 2000. Using CBO's January 2001 baseline would substantially reduce the projected level of federal debt and increase the projected accumulation of nonfederal assets.

Economic Efficiency

Paying down the debt could also improve the efficiency of the economy by helping to smooth marginal tax rates over time. (The marginal tax rate is the rate that applies to an additional dollar of taxable income.) If the debt was not paid down and current spending policies did not change, future taxpayers could face substantially higher tax rates to cover the growing costs of Social Security, Medicare, Medicaid, and interest on the federal debt. Rising marginal tax rates can be particularly harmful to economic efficiency because they reduce people's incentives to work and save, and the resulting losses in efficiency tend to increase disproportionately with the level of the tax rate.[8] Paying down the debt reduces the pressure to raise tax rates in the future.

Generational Equity

Debt reduction would also be likely to alter the distribution of resources among various groups, particularly among generations, but it is hard to predict exactly who would gain and who would lose. Among other things, that answer would depend on what policymakers did to address the rising costs of the government's entitlement programs for the elderly. In any case, the more that resources were reallocated from current generations to future generations, the larger the positive effects on GDP in the long run.

Ultimately, decisions about saving surpluses involve a judgment about how to allocate resources among generations. There are two opposing considerations. As noted earlier, spending on the elderly is set to rise sharply over the next several decades, which could place significant burdens on future generations of workers, who will have to finance that spending. But by the same token, those future generations are likely to be more affluent than the generations that preceded them.

Flexibility for Future Policymakers

The U.S. government's ability to borrow large sums of money at a reasonable cost is a valuable asset. The need to finance the retirement of the baby boomers is one foreseeable event that is likely to absorb

8. Those losses rise roughly with the square of the tax rate. For a nontechnical discussion of this issue, see Harvey Rosen, *Public Finance*, 5th ed. (Homewood, Ill.: Richard D. Irwin, 1999).

future borrowing capacity—but other unanticipated costs could arise as well. Just as households tend to save when times are good and borrow to offset hard times, the government can save by reducing debt now in order to free up the capacity to borrow in the future, when there is likely to be a more urgent need for spending.

Paying down the debt is thus a way to prepare for unexpected events. CBO's current projections of the surplus are very uncertain. Although the current budget outlook is bright, it could darken considerably if the recent burst in productivity growth proved temporary, tax revenues as a share of GDP declined, or the costs of Medicare and Medicaid grew faster than projected. In January 2001, CBO developed a scenario incorporating those factors and found that on-budget surpluses would not continue in that scenario. Instead, on-budget deficits would rise to about $140 billion a year by 2011.[9] As noted earlier, projections of the surplus are also based on current law and projections of discretionary spending. As a result, legislative changes could substantially alter the budget outlook.

Effects on Financial Markets

Many private investors hold government debt in their portfolios because it provides a relatively safe return and is highly liquid (that is, it can be easily bought and sold). Financial market makers (people who actively buy and sell securities, providing immediate liquidity to other market participants) also use Treasury securities as a benchmark to price other assets. If government debt were paid off, investors would have to adjust their portfolios, and market makers would have to change some of their procedures for pricing assets.

Buying back every single outstanding government bond would be expensive. The Treasury does not have the right to redeem many of its outstanding bonds before they mature, so the only way for the government to pay them off early is to buy them on the open market. As the outstanding stock of debt dwindled, it might be harder to persuade the remaining bondholders to sell (especially if they had to pay taxes on their capital gains), and prices for those bonds could rise significantly. CBO does not expect the Treasury to buy back all outstanding debt. For example, it projects that in 2006, the debt that would be unavailable for redemption would total $1.25 trillion.

Although the impact on financial markets of paying off the debt is uncertain, investors would probably be able to find alternative assets that were relatively safe. Moreover, U.S. financial markets—which are the most innovative in the world—would most likely create new financial instruments to satisfy investors' demands. However, those alternative assets might not be as liquid as Treasury securities are today; in addition, investors would have to hold assets that were probably not as safe as government debt. Nevertheless, because the cost of guaranteeing government debt is ultimately borne by taxpayers, investors' losses might be largely offset by taxpayers' gains.

The long-term cost of losing Treasury securities as a benchmark for pricing other financial instruments is likely to be very small. Recent buybacks of government debt and the expectation of further debt reduction have led market makers to search for alternatives. With seemingly little disruption, participants in financial markets are already shifting to other benchmarks.[10]

Although the Federal Reserve uses Treasury securities to carry out some of its important functions (such as buying and selling securities on the open market as a way to influence the economy), it would still be able to perform open-market operations if federal debt was not available. Open-market operations can be carried out using any liquid asset. However, the Federal Reserve would have to work through a number of practical problems, and policymakers might have to change the Federal Reserve's charter to allow it to use other assets.

9. See Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2002-2011* (January 2001), Chapter 5.

10. For more information, see Michael J. Fleming, "The Benchmark U.S. Treasury Market: Recent Performance and Possible Alternatives," *Economic Policy Review,* Federal Reserve Bank of New York, vol. 6, no. 1 (April 2000), pp. 129-145.

Government Accumulation of Assets

If current laws controlling revenues and outlays do not change, the government will be able by 2006 to pay off all of the federal debt that is available for redemption, CBO projects. After that date, the total budget surpluses could be used to purchase nonfederal assets, such as stocks and bonds.[11] CBO's projections indicate that by 2011, the government could have a stock of private assets totaling almost $3.2 trillion, which would represent nearly 20 percent of GDP, or about 7 percent of the total value of U.S. corporate equities and debt (at their current value relative to GDP).[12] Assuming that current policies continued, the government's share of the equity and bond markets would continue to grow after 2011.[13]

Although asset accumulation can increase the funds available for capital investment and boost economic growth, it would be unprecedented for the federal government to hold such a large stock of private assets. The potential accumulation of assets raises broad philosophical issues about whether it would be appropriate for the government to own and possibly control private companies.[14] It also raises economic questions: Would the government's involvement distort market signals and corporate decisionmaking? And could the government fully insulate its decisions about buying and selling stocks from the political process?

Economic theory and the experience of other governments provide some insights, but answers to those questions would depend on how the investments were selected, the portfolio managed, and the asset-purchase program overseen. In principle, the government could reduce the impact of its investments on the economy by investing in index funds, maintaining a passive stance, and letting private shareholders determine corporate behavior. In addition, the investments could be managed by a board that was subject to strict fiduciary rules. According to economic theory, if financial markets were efficient and government investments in any particular stock were not too large, the government would not significantly affect the prices of equities selected for its index or alter the allocation of capital among firms.

However, financial markets may not behave the way simple economic models predict, and putting a company's stock in the government's index could provide a liquidity benefit that could influence stock prices and capital flows. For example, a stock's price often increases when the stock is listed in the S&P 500 index—an event that might affect its liquidity in the same way as its inclusion in a list of assets purchased by the federal government.[15]

Many state pension funds invest in stocks and bonds, and those funds held about $2.5 trillion in corporate debt and equities in the third quarter of 2000 —about 9 percent of the U.S. corporate equity and debt market. The experience of the states in insulating their investment decisions from politics is mixed: in some cases, investment policies have bent to political pressure, and the performance of the portfolios has suffered. However, the overall returns on state and local pension fund investments (adjusted for risk) are similar to those on private funds, suggesting that political influence may not have greatly interfered with the pursuit of market returns.

Some countries have also built up substantial stocks of government-owned private assets.[16] Nor-

11. This scenario would require a change in law since the Treasury is not currently allowed to invest in corporate stocks and bonds.

12. The value of U.S. corporate equities and debt was about 2.7 times GDP in the third quarter of 2000. For the purposes of this calculation, corporate equities and debt include the market value of domestic corporations, corporate bonds, agency securities, and open-market paper.

13. In October 2000, CBO estimated that the federal government's asset holdings could balloon to 50 percent of GDP by 2030 under current policies. Since then, the long-term budget outlook has become more optimistic, so projections of asset holdings based on the current 10-year baseline would be even larger.

14. For various views on this topic, see the statement of Alan Greenspan, Chairman, Board of Governors of the Federal Reserve System, before the Senate Budget Committee, January 25, 2001, and the statement of David M. Walker, Comptroller General of the United States, before the Senate Budget Committee, February 6, 2001.

15. Statement of Kevin Hassett, Resident Scholar, American Enterprise Institute, before the House Ways and Means Committee, February 13, 2001.

16. General Accounting Office, *Budget Surpluses: Experiences of Other Nations and Implications for the United States*, GAO/AIMD-00-23 (November 2, 1999).

way, for example, has accumulated net assets (primarily foreign bonds and equities) totaling almost half of its GDP. It limits political interference by delegating the management of those investments to its central bank. However, Norway is a relatively small country whose actions would not be expected to affect financial markets to any appreciable extent. Moreover, its decision to invest primarily in foreign securities limits its potential scope for distorting the activities of its private sector.

The federal government has been relatively successful in managing the Thrift Saving Plan (TSP), which invests in equity and bond markets through broad-based indexes and provides retirement benefits to federal workers through a system of individual accounts. A crucial feature of the TSP is that its assets are owned by federal workers, not the government, and the board that oversees the program has a fiduciary responsibility to manage those assets for the sole benefit of the owners of those individual accounts.

If policymakers decided that the federal government should not invest in private assets, it would be desirable to make smooth changes in fiscal policy over a period of time rather than to suddenly cut taxes or increase spending when the debt available for redemption was paid off. Sharp policy changes run the risk of causing economic disruptions.

Conclusions

Paying down debt is sometimes viewed as unimaginative and "not doing anything" with the surplus. But debt reduction has potentially important consequences for the economy. It could boost national saving and increase investment in the U.S. capital stock and net foreign assets. With more capital, workers would become more productive and earn higher wages. The economy could be larger, taxpayers could be better able to finance future spending needs, and the government could be better prepared to deal with unexpected events.

The surpluses projected under current law are large enough that the federal government could pay off all debt held by the public that is available for redemption by 2006. After that point, surpluses could be invested in nonfederal assets, which could grow to unprecedented levels. Using surpluses for debt reduction carries an opportunity cost. If some or all of an annual surplus goes to pay off debt, it will not be available today for other uses—such as increasing spending or cutting taxes.

Part Two:
Spending Options

Chapter Two

Expanding the Scope of Federal Retirement, Health, and Education Activities

Vigorous debates among policymakers during the past year have focused on retirement income, health insurance, and education. The current limitations of federal programs in those areas and their rapidly escalating costs over the coming decades have prompted calls for policy actions. At the same time, the strong economy and growing budget surpluses that are projected over the next 10 years may provide expanded resources for new policy initiatives. The challenge facing policymakers is to balance the needs and opportunities for expansions in the short term with the consequences of those actions in the longer term.

Social Security and Medicare, which provide retirement income and finance the cost of health care for millions of elderly and disabled people, have been criticized on a number of grounds. Those programs, which will account for nearly $670 billion in federal spending this year, will grow dramatically as the baby-boom generation becomes eligible for benefits. Yet many elderly people have low income, and many do not have insurance coverage for prescription drugs. The Congress could restructure Social Security to increase the income of the elderly and broaden Medicare benefits. But such actions could exacerbate the long-term financing problems faced by those programs.

Although Medicare provides nearly universal coverage to the elderly population, millions of people under age 65 do not have health insurance. Various approaches to reducing that number have been proposed, including expanding federal programs, providing more generous tax preferences to pay for health insurance, and imposing stricter requirements on insurers and employers to induce them to cover more people. To significantly reduce the number of people without health insurance, however, such initiatives would probably require very large government expenditures or impose similarly large costs on the private sector.

The nation's future prosperity and its ability to pay for expanded federal programs over the long term depend in part on the effectiveness of its education system. State and local governments have traditionally been responsible for setting education standards and financing education services, with only a limited federal role. Yet a number of proposals have been advanced at the federal level to improve education outcomes. Some options—such as promoting the use of vouchers for public school students to attend private schools or requiring states that receive federal funds to undertake mandatory testing of their students—would not require large amounts of federal aid. Other proposals—including expanding the availability of preschool education, improving the effectiveness of elementary schools by reducing class size, or promoting greater investment in higher education—would require significant increases in spending. Despite uncertainty about the effectiveness of alternative policies, the importance of the issues is clear.

The discussion in this chapter is intended to provide a broad perspective on the nature of the pol-

icy problems, the scope of current federal programs, and the major approaches that have been proposed to expand federal funding or regulatory activity. Because the number of specific options that have been proposed is large, the chapter does not reflect a comprehensive set of proposals. Also, the inclusion or exclusion of a particular proposal does not imply its endorsement or rejection by the Congressional Budget Office (CBO).

Social Security

This year, the Social Security program will pay about $430 billion in benefits to about 45 million retired and disabled workers, their families, and their survivors. Nearly all workers and their employers now pay Social Security payroll taxes, and most people over age 65 (as well as many younger people) receive monthly benefits from the program.

Social Security is, by far, the federal government's largest program, playing a critical role in supporting the standard of living of its many beneficiaries. In recent years, people age 65 or older have received about 40 percent of their cash income from Social Security. Elderly people whose cash income is relatively low have been particularly reliant on Social Security. Families that have at least one member collecting Social Security benefits and that are in the lowest income quintile of elderly families have received almost 90 percent of their income from Social Security, compared with only 25 percent for those in the highest income quintile.

The Social Security Budget Story in Brief

Spending for Social Security has been growing at roughly the same pace as the overall economy in recent years and will continue to do so throughout the next decade. The share of the economy devoted to Social Security has been between 4 percent and 5 percent of gross domestic product (GDP) for the past quarter of a century and is expected to remain below 5 percent until 2015, according to the Social Security Administration.[1] Meanwhile, revenues from Social Security payroll taxes have increased rapidly as the economy has expanded. CBO projects that Social Security revenues will exceed program outlays by between $150 billion and $330 billion in each of the next 10 years.[2]

Once large numbers of the baby-boom generation begin receiving benefits, however, spending on Social Security (as well as on other programs for the elderly) will consume an increasing share of national income.[3] The Social Security program's trustees project that under the current benefit structure, total spending will rise to 6.6 percent of GDP in 2030.

The expected increase in Social Security spending as a share of GDP results from the aging of the population born during the 1946-1964 baby boom. As that cohort retires and becomes eligible for Social Security benefits (starting in 2008), the ratio of beneficiaries to workers is expected to surge. By 2030, there will be 47 beneficiaries per 100 workers covered by Social Security, compared with only 29 today, according to estimates from the Social Security Administration. The number of beneficiaries is expected to increase somewhat faster than the number of workers thereafter, as life spans continue to lengthen.[4]

1. *2000 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors and Disability Insurance Trust Funds* (March 30, 2000), p. 189, and tables available at www.ssa.gov, based on the trustees' intermediate assumptions.

2. Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2002-2011* (January 2001), p. 19. More than 85 percent of the revenues credited to the Social Security trust funds are from payroll taxes levied on workers and their employers. Most of the rest is from interest received on trust fund balances and from a portion of the income taxes paid by Social Security beneficiaries whose adjusted gross income is above a specified amount.

3. Congressional Budget Office, *The Long-Term Budget Outlook* (October 2000).

4. *2000 Annual Report*, pp. 63 and 122. The intermediate assumptions in the report are that in 2030, the life expectancy of men who reach age 65 will be 17.5 years and that of women will be 20.4 years. In 2000, the life expectancy of men age 65 was 15.9 years, and that of women was 19.2 years. In 1940, soon after the Social Security program began, the life expectancies of men and women at age 65 were only 11.9 years and 13.4 years, respectively. ("Life expectancy," as used here, is the average number of years of life remaining for a person if that person experienced the death rates by age observed in, or assumed for, the selected year.)

Much attention has been focused on the outlook for the Social Security trust funds. Last year, Social Security tax revenues, together with interest and other intragovernmental payments, exceeded expenditures by about $150 billion, bringing total Social Security trust fund balances to over $1 trillion. Projections show those balances rising steadily over the next two decades, peaking at $6 trillion at the end of 2024 and then diminishing until the balances are exhausted in 2037. Once the funds are exhausted, the taxes collected for the Social Security program will equal only about 72 percent of the benefits owed.

But the size of trust fund balances bears no relationship to Social Security's obligations or to the country's ability to fund benefits. Once Social Security benefits begin to outstrip payroll tax collections, the federal government eventually will need to reduce Social Security benefits or spending on other federal programs, borrow, or raise taxes—regardless of the size of the trust funds. To fulfill the nation's promises to Social Security beneficiaries, the government must acquire resources from existing production when benefits are due. The ability to pay those future benefits and to fulfill other commitments will depend on the total financial resources of the economy, not on the balances in the trust funds. Actions taken now to boost capital accumulation, enhance productivity, and increase work effort could help build a larger economy in the future, which in turn would expand the capacity to fund future Social Security benefits, other federal commitments, and other claims of the elderly on the economy.

Proposals for Increasing Retirement Income

Despite the large amount spent on Social Security benefits, many elderly people still have low income. In the most recent year for which data are available, 1.0 million elderly men (6.9 percent of men age 65 or older) and 2.2 million elderly women (11.8 percent) had income below the poverty threshold.[5] Many others have income slightly above the poverty line. As the number of elderly people increases, the number with low income (but not necessarily the percentage) is likely to rise as well.

The Congress could take several approaches in the short run to improve the lives of the elderly by increasing their income, particularly those with low income, although that need not be the only goal of federal policies. To help raise the income of the elderly, the government could:

- Provide them with more income from Social Security or other public programs once they were no longer working;
- Encourage current workers to save more for their retirement by contributing to pensions, individual retirement accounts (IRAs), or other types of retirement plans; and
- Encourage people to work longer.

Numerous proposals in each of those areas have been made in recent years.

Increase Benefits. The first approach would be to target additional federal resources toward low-income elderly people. The Social Security program already does so by using a progressive benefit formula through which retired workers with a history of low wages receive benefits that replace a higher percentage of their preretirement earnings than the percentage replaced for other retired workers. The program also bases benefits for widows on the benefits for which their husbands had qualified, if that provides them with higher benefits than they would receive on the basis of their own past earnings. Both of those features could be strengthened, or new provisions could be enacted to specifically focus on beneficiaries with low family income. If those provisions were successful, some of the additional Social Security expenditures could be offset by reductions in outlays for Supplemental Security Income (SSI) and other means-tested programs.

For example, the "special minimum benefit" provisions in the current Social Security program could be revamped to increase benefits for people who worked many years at low wages. Fewer than

5. Bureau of the Census, *Poverty in the United States: 1999*, Current Population Reports, Series P60-210 (September 2000), Table 2. Poverty rates are particularly high for elderly women who are widowed or divorced, or who never married, and for the small group of elderly people who do not receive Social Security benefits.

200,000 people receive Social Security benefits under the current rules for special minimum benefits, and the average benefit they receive is below the poverty line.[6] Some Social Security reform plans call for a new provision that would raise the minimum benefit above the poverty line for retirees who worked most of their adult life at low wages.

But modifying the Social Security system to strengthen its role in providing adequate income to retired workers is difficult to do in a way that would ensure that most of the additional benefits went to low-income beneficiaries. This is because eligibility for Social Security benefits has never been based on need. As long as means-testing is eschewed, it is hard to focus additional Social Security benefits specifically on people who are in low-income families. For example, some people who receive low Social Security benefits have pensions and other sources of retirement income or have a spouse who has high benefits. Likewise, although a widow has a much higher likelihood of being poor than does the average elderly person, a policy that focused on improving the benefits of widows could also help those with higher income as well and could miss the majority of the low-income elderly.

An alternative method of helping low-income elderly people would be to increase both the number who receive SSI and the amount of their monthly benefit. This year, that means-tested program will provide over 6 million recipients with about $28 billion in federal benefits. (In addition, most states supplement the federal benefits.) About one-third of those recipients are age 65 or older; the others will qualify on the basis of their disabilities. Increasing maximum monthly SSI benefits would raise the income of current recipients and could bring other low-income elderly and disabled people into the program. (The maximum monthly benefit for an individual with no other income in 2001 is $530; for a couple, it is $796.) One way of helping some low-income elderly people who are not participating in the SSI program would be to reduce the requirements for becoming eligible for SSI, perhaps by allowing participants to have more assets. (The current resource limit is $2,000 for an individual and $3,000 for a couple.) Increasing benefits or expanding eligibility could, of course, substantially add to SSI program costs, especially if more people participated in the program.

Increase Savings. Another approach to increasing the income of the elderly would be to subsidize or otherwise encourage people to save more for their old age. That approach could increase the resources available to future retired workers and their families, but it would not help people who had already retired.

The federal government encourages workers to save for their retirement, largely through various tax incentives. For example, workers can receive favorable tax treatment for earnings that they and their employers put directly into qualified retirement plans, such as the commonly used 401(k) plans. They can also receive favorable tax treatment for money they invest in IRAs.[7]

Additional incentives could be provided by broadening the eligibility for existing plans, increasing the amount that workers can contribute, or developing new types of plans. For example, the Clinton Administration's proposal to establish retirement savings accounts would have provided eligible workers with matching contributions to encourage them to put money into a retirement plan. Several of the proposals for partial privatization of the Social Security program (discussed below) would also encourage or require workers to put money into investment accounts that they could not withdraw from before age 62.

A key issue in assessing any proposal of this sort is whether federal spending (directly or through reduced revenues) would actually increase overall saving or merely substitute for saving that would have occurred without the proposal. The majority of workers already save something for their retirement through pension plans, IRAs, and other investments. If the federal government subsidized workers to put aside money in a specific type of plan, they might put less into other accounts. Proposals that focus the subsidy on workers whose income is relatively low

6. Social Security Administration, *Annual Statistical Supplement, 2000*, Table 5.A7. In December 1999, 146,000 beneficiaries received an average monthly benefit of $556. Most of those beneficiaries were retired workers, whose average monthly benefit was $578. The annual poverty threshold for an elderly person living alone in 1999 was $7,990, or $666 a month.

7. Provisions in the tax code that include incentives to save are discussed in Chapter 6.

would suffer less from that problem because those workers are less likely to have pensions and other savings.

Increase Employment. Encouraging workers to delay retirement would also increase the income of the elderly. At age 62, most workers become eligible for Social Security benefits and must make two decisions:

- Should they continue to work and, if so, how much?
- Should they apply for Social Security benefits?

Within a year of becoming eligible for benefits, a majority of workers have stopped working (or substantially reduced their earnings) and a majority have filed for benefits. One consequence of those actions is that most of those workers subsequently have a smaller income than they would have had if they had postponed retirement. For example, workers who stop working and begin collecting benefits at age 62 this year will receive monthly Social Security benefits that are about 20 percent below the amount they would have received if they had delayed retirement and the receipt of benefits until age 65. Moreover, if they instead continued to work, fewer years of retirement would need to be financed out of whatever private savings they had already accumulated, and they might be able to save more for their retirement. Likewise, the size of any private pensions they had might increase somewhat. (The relevant Social Security rules are described in Box 3.)

Box 3.
Eligibility for Social Security and the Earnings Test

Workers can begin receiving Social Security retirement benefits as early as age 62, but the monthly benefits they receive will be lower than if they postpone filing. From age 62 to the full retirement age (also known as the "normal" retirement age), each year postponed adds about 7 percent or 8 percent to monthly benefits. Likewise, workers who delay collecting benefits beyond the full retirement age receive a credit for doing so. Each year delayed adds 6 percent to the monthly benefit of workers turning age 65 this year; the size of that credit is scheduled to gradually increase to 8 percent for subsequent birth cohorts.

Until last year, the full retirement age was 65 for everyone who was receiving benefits. Starting with workers born in 1938 (that is, workers who became eligible for retirement benefits in 2000), the full retirement age gradually increases from 65 to 67. For workers born in 1938, the full retirement age is 65 years and 2 months. For most practical purposes, that increase in the full retirement age simply reduces monthly benefits below what they would have been without the change; it does not alter the age of eligibility for benefits. For example, when the full retirement age was 65, the benefits of workers who began collecting them at age 62 were permanently reduced by 20 percent. When the full retirement age becomes 67, workers will still be eligible to collect benefits at age 62, but they will incur a 30 percent reduction. (Workers who began collecting retirement benefits last year at age 62 will receive about 1 percent less than they would have received had the full retirement age remained at 65.)

The rules requiring the withholding of Social Security benefits if beneficiaries have earnings in excess of a certain exempt amount—the "retirement earnings test"—are complicated and easily misunderstood. In 2001, the benefits of workers who are under the full retirement age are reduced by $1 for each $2 they earn above $10,680. (The earnings threshold automatically rises each year according to the annual increase in a national average wage index.) Workers whose benefits are reduced because their earnings exceed the threshold will subsequently receive higher monthly benefits—about 7 percent or 8 percent higher for each year in which benefits are entirely withheld because of the retirement earnings test. The increase in benefits in many cases will be even more than 8 percent because the additional earnings can raise the earnings base on which benefits are calculated. In short, even though the retirement earnings test is often portrayed as a tax on work, it is more accurately described as a means of deferring benefits until workers no longer have substantial earnings.

One way of encouraging people to work longer would be to eliminate Social Security's retirement earnings test so that people could begin to collect Social Security benefits at age 62 while they continued to work. Under current law, retirement benefits are reduced by $1 for each $2 that beneficiaries under the full retirement age earn above a specified threshold ($10,680 in 2001). Although those workers can later receive substantially higher monthly benefits as a consequence of that reduction, some people apparently are not aware of that and treat it as a simple benefit reduction. As a result, they either stop working before they would have in the absence of the retirement earnings test or, at least, keep their earnings below the threshold.

Until last year, a separate earnings test applied to workers ages 65 through 69. The Senior Citizens Freedom to Work Act of 2000, signed into law last April, repealed the earnings test for beneficiaries at the program's full retirement age but left in place the test for younger beneficiaries. As the full retirement age increases from 65 to 67 over the next two decades, the size of the group subject to the remaining earnings test will greatly expand.

Eliminating the retirement earnings test at age 62 would be quite costly initially because it would encourage workers who were already eligible for Social Security benefits to claim them. But the effect on Social Security spending would be small in the long run, according to the Social Security Administration's Office of the Actuary, because the earlier receipt of benefits would result in lower future monthly benefits.[8]

Proponents of eliminating the earnings test contend that it is unfair and counterproductive to penalize people who want to work. Workers ages 62 through 64 who are otherwise eligible for Social Security benefits may think they are facing a 50 percent tax on their wages if they earn more than the threshold amount. That tax rate is in addition to the payroll taxes and income taxes they already must pay. Although those workers may be mistaken, proponents of abolishing the earnings test argue that some people are working less to avoid any reduction in their Social Security benefits.

Opponents argue that the main effect of eliminating the earnings test would be to provide Social Security benefits to workers who already have a higher income than do many Social Security beneficiaries. The only people who would receive higher Social Security benefits if the earnings test was eliminated would be workers who earned above the threshold amounts. For example, 63-year-old workers who had earnings above the threshold this year and were otherwise eligible for the average Social Security benefit for workers their age would need to have a total income (earnings plus benefits) of almost $20,000 before their benefits would be reduced.[9] Another drawback of eliminating the earnings test is that workers who decided to claim benefits while still working would receive lower benefits after they stopped working than they would have received if they delayed filing for them. Thus, encouraging people to claim benefits at an earlier age could subsequently increase the number of elderly retired workers and their survivors who have low income.[10]

An alternative approach to increasing the income of the elderly is to raise the earliest eligibility age for Social Security retirement benefits. Several proposals for slowing the growth in Social Security spending include provisions that would gradually raise the earliest eligibility age from 62 to 65 and then link subsequent increases to changes in life expectancy. Such proposals would make people below the new eligibility age worse off by delaying their eligibility but would help ensure that they had higher income later. Unlike proposals to eliminate the retirement earnings test, this approach would initially

8. The Social Security Administration's Office of the Actuary estimates that eliminating the earnings test for workers age 62 or older would worsen the 75-year actuarial balance by a small amount. See the memorandum from Stephen C. Goss, Deputy Chief Actuary, to Harry C. Ballantyne, Chief Actuary, "Long-Range OASDI Financial Effects of Eliminating the OASDI Retirement Earnings Test," September 13, 1999.

9. In December 1999, the average monthly benefit paid to retired workers age 63 was $713 (see Social Security Administration, *Annual Statistical Supplement,* Table 5.A1). Including the subsequent cost-of-living adjustments they would have received, the annual amount of those benefits would now exceed $9,000. Thus, workers receiving average benefits and facing the $10,680 threshold could have a total income of almost $20,000 without any reduction in their benefits.

10. See Michael A. Anzick and David A. Weaver, "The Impact of Repealing the Retirement Earnings Test on Rates of Poverty," *Social Security Bulletin*, vol. 63, no. 2 (2000), pp. 3-11.

reduce Social Security spending because workers would need to wait longer to become eligible for benefits. In the long run, however, raising the earliest eligibility age without making other changes in the program probably would have little impact on Social Security spending because the workers would ultimately become eligible for higher benefits.

Proponents argue that the federal government should no longer be helping people retire at age 62, for several reasons. First, with the coming shift in the age distribution of the population, it makes little sense to give up the productive capacity and revenues that would result from more people working longer. Second, as life spans have increased and the average job has become less physically demanding, most people can work longer. Third, by enabling workers to trade lower future Social Security benefits for early access to benefits, the current rules for early retirement contribute to the higher poverty rates experienced by people who live to a very old age.

Opponents of raising the earliest eligibility age contend that it would be especially harmful to people who have little or no choice about when they stop working and who have few resources other than Social Security.[11] Those opponents argue that many low-earning workers are in physically demanding or unpleasant jobs and that by age 62, if not earlier, they have worked long enough.[12] Moreover, by that age, opportunities for those workers are not very plentiful if they lose their job, particularly if the labor market is weak. Another argument made by opponents is that raising the earliest eligibility age would be unfair to workers with a below-average life expectancy, especially if they left no survivors who were eligible for benefits.

Long-Term Reform

Both the Congress and the Administration are interested in addressing the problem of funding Social Security over the long term in a timely fashion. But policymakers sharply disagree about how to do so.

Benefit Reductions and Revenue Increases. Slowing the growth in spending for Social Security would be one way of reducing future budgetary pressures. Previous CBO reports have reviewed a wide range of options for doing that. For example, the formula used to calculate benefits for newly eligible beneficiaries could be altered to reduce their initial benefits; the age at which full benefits became available could be increased; or the cost-of-living adjustments beneficiaries receive could be reduced.[13]

Each option for slowing the growth in benefits, by itself, would leave some beneficiaries worse off than they would be if they received the benefits scheduled under current law and the benefits were paid for in some other way. If the changes were made in a way that preserved the benefits of those with the lowest benefits, then larger reductions would need to be made in the benefits received by other retired workers. That is, the benefit structure would need to be made more progressive.

Benefit reductions might be avoided by increasing Social Security taxes or other federal revenues. The Social Security program's trustees project that the gap between spending and program revenues in 2037 will be about 4.7 percent of taxable payroll. Thus, an increase in the combined payroll tax on workers and their employers from 12.4 percent to 17.1 percent at that time would be an alternative way of dealing with the shortfall.[14]

11. See Congressional Budget Office, *Raising the Earliest Eligibility Age for Social Security Benefits*, CBO Paper (January 1999), for an analysis of the characteristics, circumstances, and financial resources of men and women who claimed Social Security retirement benefits at age 62 or 63 in the early 1990s. That paper found that the majority of those retired workers had pensions and other sources of income sufficient to keep them well above the poverty line even if they had not received Social Security. But a sizable minority of them had non-Social Security income below the poverty threshold and might well have had serious difficulty finding a job.

12. If the eligibility age was raised, more workers would probably apply for benefits under Social Security's Disability Insurance program instead. If they were successful, that program would incur additional costs.

13. See Congressional Budget Office, *Long-Term Budgetary Pressures and Policy Options* (May 1998), Chapter 3. In addition, estimates of the budgetary savings for the 2002-2011 period for three specific ways of reducing benefits are presented later in this volume (see options 650-01, 650-02, and 650-03).

14. See *2000 Annual Report*, p. 171, and tables available at www.ssa.gov, based on the trustees' intermediate assumptions. The trustees project that the gap will remain below 5.0 percent of taxable payroll until 2055 and then will gradually increase to 6.2 percent by 2075.

Privatization. Numerous proposals have been made to pair a reduction in the Social Security program with the establishment of mandatory individual investment accounts that are owned and directed by workers themselves. Such proposals, often referred to as privatization, would give workers control over how their money was invested. Most privatization plans have at least these four elements:

- Reduce Social Security benefits below the amounts specified under current law;
- Require (or at least give a strong financial incentive to) workers to put a certain percentage of their earnings into individual investment accounts;
- Allow workers generally to decide for themselves how their accounts are invested; and
- Prohibit withdrawal of money from those accounts until workers reach a certain age.

Privatization proposals raise a number of issues concerning their potential consequences for the economy and for the income of workers and their families after the workers retire, become disabled, or die. Proponents of plans to replace all or part of future Social Security benefits with income from mandatory defined contributions contend that doing so would increase national income and enable workers to receive much higher returns on their investments than they could get by putting their money into the Social Security system. Opponents argue that those claims are exaggerated and that even partial privatization could subject workers, particularly low-wage workers, to unnecessary financial risk.

Although mandatory accounts would not resolve the projected shortfall between revenues earmarked for Social Security and program costs, they would provide an alternate source of income for former workers and their families if Social Security benefits were scaled back. Replacing part of Social Security with individual accounts would shift some financial risk, now borne collectively, onto the workers themselves, but at the same time it would offer workers the potential to increase their income in retirement. Some privatization proposals, however, provide a government guarantee if the returns on the investments are not as high as expected. Such proposals could increase the government's financial risk.

Medicare

The second-largest entitlement program after Social Security, Medicare provides health insurance coverage to people who are aged or disabled. It comprises two separate programs—Hospital Insurance (HI) authorized under Part A, and Supplementary Medical Insurance (SMI) authorized under Part B. The HI program pays for inpatient hospital care, some stays in skilled nursing facilities, some home health care, and hospice services. The SMI program pays for services from physicians, medical suppliers, and outpatient care facilities as well as for some home health care.

In 2000, the federal government spent about \$220 billion to finance the health care of 39 million beneficiaries—60 percent of that cost was for the HI program and 40 percent for the SMI program. The HI program is financed entirely by a portion of the Social Security payroll tax levied on current workers and their employers. The SMI program is financed partly from monthly premiums paid by enrollees and partly from general revenues, which currently cover about 75 percent of costs.

Medicare spending has grown dramatically since the program began more than three decades ago, and that growth has been of increasing concern to policymakers. Between 1975 and 1997, Medicare spending grew faster than the economy, rising from 1.1 percent of gross domestic product to 2.6 percent.

Following years of rapid growth, however, spending for Medicare has slowed considerably in the past few years. Indeed, spending was actually lower in fiscal year 1999 than in 1998, though growth resumed in 2000, with spending up by 3.9 percent. Likely reasons for the temporary slowdown include the cost-reducing provisions of the Balanced Budget Act of 1997 (BBA) and the reactions of providers to enhanced federal efforts to combat billing errors and fraud.

The improved fiscal outlook for both Medicare and the overall budget has led to a greater focus on proposals to expand Medicare benefits, particularly to add coverage for outpatient prescription drugs and to limit total out-of-pocket expenses for beneficiaries. Medicare beneficiaries often incur substantial costs for prescription drugs, for which many of them—about a third—have no insurance protection. Moreover, unlike typical private insurance plans, Medicare does not cap beneficiaries' cost-sharing liabilities, leaving them without "stop-loss" protection against high costs even for services that the program covers.

In 1999, the Bipartisan Commission on the Future of Medicare considered a number of ways to address those two deficiencies. Subsequently, some members of the commission introduced a bill (S. 1895) in the 106th Congress based on one of the approaches they considered. That bill would have added a high option to Medicare, with both drug coverage and stop-loss protection for currently covered services. Other proposals would have added only a drug benefit: the Clinton Administration's proposal would have offered prescription drug coverage through Medicare, and a House-passed bill (H.R. 4680) would have subsidized drug coverage offered by private insurers.

Policymakers have raised concerns, though, that proposals to expand Medicare benefits could exacerbate the program's long-term financing problem. The leading edge of the baby-boom generation will become eligible for Medicare in 2011, and program costs are certain to increase rapidly thereafter under current law. Demand for Medicare services will grow dramatically over the next few decades, while the number of people in the labor force will grow much more slowly. Between 2000 and 2030, for example, the number of Medicare beneficiaries will almost double, compared with an expected increase of about 13 percent in the number of workers contributing payroll taxes. For that reason, some fundamental reform of Medicare's financing will be necessary even if current benefits are unchanged. If benefits are expanded, then Medicare's fiscal requirements would be still higher.

Expanding Benefits

Compared with the typical health insurance plan offered by employers, Medicare's benefit package is limited in significant ways. The program covers most basic services—hospital stays, postacute care, physicians' services, and other outpatient care—but excludes other services generally considered important. Perhaps the most notable omission is coverage for outpatient prescription drugs, which have become a significant expense for many beneficiaries. In 1997, spending on prescription drugs accounted for over 10 percent of the cost of health services for Medicare beneficiaries. Almost half of that cost was paid for out of pocket rather than through some type of insurance coverage. In addition to lacking coverage for prescription drugs, Medicare beneficiaries also lack coverage for many preventive services available to privately insured people.

Beneficiaries are potentially liable for significant costs even for the services covered by Medicare. For example, beneficiaries must pay a deductible equal to $792 in 2001 for each inpatient hospital stay, and hospital stays of more than 60 days require a substantial copayment. Care in skilled nursing facilities is also subject to substantial copayments after the first 20 days. Most outpatient services are subject to a $100 annual deductible, after which the patient is responsible for 20 percent of covered expenses (plus any additional amount that the physician is allowed to charge).

In part because Medicare leaves beneficiaries at risk for very large out-of-pocket costs, most beneficiaries seek some kind of supplementary coverage through employment-sponsored retiree health plans, private medigap plans, health maintenance organizations (HMOs), or Medicaid (for those whose income and assets are low enough to qualify). But such a patchwork arrangement generates a number of problems. First, it leaves unprotected a group of people (about 10 percent of beneficiaries) who do not qualify for Medicaid or coverage under a retiree health plan and who cannot afford an individual insurance supplement. Second, the coverage available from private supplements is eroding. The share of employers offering health coverage to their retirees has been declining in recent years, and the supplementary benefits offered by HMOs are also being scaled back in

response to lower rate increases from Medicare. Furthermore, because most medigap plans do not cover drugs, those that do so experience adverse selection (attracting enrollees who are more costly than average), resulting in such high premiums that few medigap enrollees purchase those plans. Third, the costs of administering insurance supplements are high because of the need to market to individuals and to coordinate benefit payments with Medicare.

Making Medicare's coverage more comprehensive would reduce or eliminate the need for private insurance supplements, but it would also mean that some of the costs now paid by beneficiaries, their employers, or state Medicaid agencies would be paid by Medicare. Expanding Medicare's benefits would also probably slow the shift of enrollment from Medicare's fee-for-service sector to risk-based Medicare+Choice (M+C) plans because those plans are currently one low-cost way in which enrollees can supplement Medicare's coverage. It might also accelerate the decline in employer-sponsored retiree health benefits.

Covering Prescription Drugs. Both the Clinton Administration and the House of Representatives developed proposals during the last session that would have added a prescription drug benefit to Medicare. The benefit would be offered under a new voluntary Part D of Medicare, in which beneficiaries would have a one-time option to enroll. Both proposals would provide additional subsidies to low-income participants in the drug benefit through the Medicaid program. Enrollees in M+C plans would get the drug benefit through those plans.

The proposals differ, however, in how the drug benefit would be administered in Medicare's fee-for-service sector. Under the Clinton Administration's proposal, the drug benefit would be administered by regional agencies that would not bear insurance risk. Under the House bill, the drug benefit would be provided by private plans that bore substantial risk but were partially protected by a reinsurance mechanism through Medicare. In areas where no private plan offered the benefit, the House bill would provide for a fallback Medicare offering. The two proposals also differ in the generosity of the benefit they would provide and in the amount of the premium subsidy (see Table 2).

The Clinton Administration's Proposal. As proposed in the President's budget submission in February 2000, a voluntary drug benefit under a new Part D of Medicare would begin in 2003. It would pay half of the cost of each enrollee's outpatient prescription drugs, up to a specified benefit cap. One-half of the benefit costs would be financed by enrollees' premiums, and the other half would come from general revenues. That initial proposal was modified in the June 2000 *Mid-Session Review* in two ways: the start of the benefit was moved up to 2002, and stop-loss protection for enrollees' cost-sharing expenses under the drug benefit was added. All of the costs of the stop-loss benefit were to be paid from general revenues. In 2003, the benefit cap would be $1,000 and the stop-loss amount would be $4,220. An enrollee with $1,000 in total drug costs would pay $500; one with $3,000 in total drug costs would pay $2,000; no enrollee would pay more than $4,220 in cost-sharing expenses in 2003. Premium expenses for Part D enrollees would be $24.40 a month, or $292.80 per year. That amount would cover 50 percent of the total cost for the basic drug benefit (without stop-loss protection) and about 33 percent of the cost for the full drug benefit.

Last year, CBO estimated that the Clinton Administration's midsession prescription drug proposal (as a stand-alone provision) would add about $13 billion to Medicare's net costs in 2002, its initial year of operation. That estimate excludes the cost of subsidies to low-income Medicare beneficiaries. Annual costs to Medicare of the drug proposal would increase to $54 billion by fiscal year 2010, and 10-year costs (2001-2010) would total $303 billion. The low-income subsidies under the proposal would add another $41 billion to the 10-year cost.[15]

Although Medicare enrollees who had high drug costs would be better protected with the addition of the stop-loss provision, those who spent enough on drugs to trigger that protection would no longer have to pay attention to drug prices. As a result, prices might increase for some drugs used heavily by Medicare enrollees—particularly drugs with no close substitutes. CBO estimated that after 10 years, the average price of drugs consumed by Medicare beneficia-

15. See CBO's Analysis of the Health Insurance Initiatives in the *Mid-Session Review* (July 18, 2000).

ries would be 8 percent higher under the Clinton Administration's proposal. Those higher prices would also increase drug costs under other federal programs—Medicaid, the Federal Employees Health Benefits program, and programs in the Department of Defense, the Department of Veterans Affairs, the Public Health Service, and the Coast Guard.

The House Proposal. Under the House bill (H.R. 4680) passed on June 28, 2000, a voluntary drug benefit under a new Part D of Medicare would begin in 2003. The bill would provide federal reinsurance payments to entities offering qualified drug coverage to Medicare beneficiaries. Eligible entities would include Medicare+Choice plans, retiree health plans, and other sponsors of prescription drug plans that offered either the specified standard coverage or a benefit that was at least actuarially equivalent. In 2003, the specified standard coverage would have a $250 deductible, 50 percent coinsurance up to a benefit cap of $1,050, and stop-loss protection at $6,000. An enrollee with $1,000 in total drug costs would pay $625; one with $3,000 in total drug costs would pay $1,950; no enrollee would pay more than $6,000 in cost-sharing expenses in 2003.

Estimated premium expenses for Part D enrollees would average $39.20 a month, or $470.40 per year, under the assumption that reinsurance payments made to plans would be reflected in lower premiums. On average, federal reinsurance payments would cover about 35 percent of plan expenses, so enrollees' premiums would cover about 65 percent of costs. The extent of the subsidy would vary across plans, however, depending on each plan's mix of low- and high-cost enrollees. In 2003, for example, plans with no enrollees whose drug costs exceeded $1,250 would receive no federal reinsurance payments, so enrollees' premiums would have to cover all of those plans' costs. Plans with some higher-cost enrollees would receive federal reinsurance payments designed to subsidize a larger share of costs for more costly enrollees.

Table 2.
Effect in 2010 of Selected Prescription Drug Proposals from the 106th Congress

	The Clinton Administration's *Mid-Session Review* Plan	The House Proposal (H.R. 4680)
Participation (As a Percentage of Medicare Enrollment)		
Participation Rate		
Participants in federally overseen benefit	87	75
Participants in federally subsidized employer-sponsored plans	6	n.a.
Total	94	75
Nonparticipation Rate		
Nonparticipants enrolled in Part B of Medicare	0	19
Other nonparticipants	6	6
Total	6	25
Costs (In billions of dollars)		
Net Costs for Medicare Drug Benefit	53.8	14.8
Net Federal Costs for Low-Income Subsidies	6.4	11.9

SOURCE: Congressional Budget Office (from March 2000 baseline).

NOTE: n.a. = not applicable.

Last year, CBO estimated that the drug benefit under the House bill (as a stand-alone provision, and excluding the costs of low-income subsidies) would add about $7 billion to Medicare's net costs in 2003, its initial year of operation. Annual costs to Medicare of the drug proposal would increase to about $15 billion by fiscal year 2010, and 10-year costs would total $86 billion.[16] The low-income subsidies provided under the bill would add another $60 billion to 10-year federal costs. CBO estimated that after 10 years, the average price of drugs consumed by Medicare beneficiaries would be about 2 percent higher under this bill.

Limiting Cost-Sharing Expenses. Medicare provides substantial protection for millions of beneficiaries against the cost of health care services. But the insurance protection Medicare now provides against high out-of-pocket costs could be significantly improved if cost-sharing expenses for currently covered services were limited to a maximum annual amount for each enrollee. Such stop-loss protection is typical in private insurance plans.

Neither the President's proposal nor the House bill would provide a stop-loss limit on enrollees' cost-sharing expenses for services currently covered under Medicare, but the bill developed by members of the Medicare Commission (S. 1895) would have limited such expenses, in addition to providing a drug benefit under a new high-option plan.[17] Adding stop-loss protection would increase Medicare's costs unless other aspects of the program were modified. For example, if enrollees' cost-sharing expenses were capped at $2,000 in 2002 with no other changes in current law, Medicare's net costs for the year would be nearly 7 percent higher. One option to limit costs would be to increase the cost-sharing requirements that Medicare beneficiaries would pay until they met an annual cap on those expenses. Combining stop-loss protection with the cost-sharing requirements described in Chapter 5 in option 570-12-A, for instance, would lower Medicare spending by about 1 percent in 2002. That alternative might be unpopular, though, because 70 percent of all beneficiaries would face at least a small increase in cost-sharing expenses, whereas only 10 percent would have their cost-sharing expenses fall because of the stop-loss protection.

Ensuring Access to Services. Since the BBA was enacted in 1997, Medicare spending has been at levels well below estimates made at that time. Health care providers and managed care plans have argued that those lower levels of spending will lead to access problems for beneficiaries, as some providers reduce services and managed care plans withdraw from certain geographic areas. In the Balanced Budget Refinement Act of 1999, the Congress restored about $17 billion in higher Medicare payments over five years, mainly to health care providers. In 2000, legislation increased payments to providers and managed care plans by another $36 billion over five years.

It is difficult to assess, however, whether Medicare rates paid to health care providers and managed care plans are adequate to provide access and quality services to beneficiaries. For example, the Medicare Payment Assessment Commission (MedPAC) and the Health Care Financing Administration reported that total hospital margins dropped from 6 percent in fiscal year 1997 to 3.9 percent in fiscal year 1998, but lower private payments accounted for three-quarters of the decline. Some of the sharpest declines in Medicare payments were in payments to home health agencies, which dropped 15 percent between 1997 and 1998 alone. Although a large number of home health agencies left Medicare between October 1997 and March 2000, surveys conducted by the General Accounting Office and the Office of Inspector General for the Department of Health and Human Services found that few beneficiaries had difficulty obtaining home health services.

Prior to passage of the Balanced Budget Act, there was widespread belief that Medicare's payment rates for Medicare+Choice plans were high—that is, they did not adequately reflect the relatively low-risk mix of enrollees the plans attracted. If true, Medicare tended to pay more for enrollees in M+C plans than it

16. See CBO's cost estimate for H.R. 4680, The Medicare Rx 2000 Act (June 28, 2000).

17. The original version of the Breaux-Frist proposal (S. 1895) provided a high-option plan offering both a drug benefit and stop-loss protection on cost-sharing expenses for currently covered services in a restructured Medicare that would have made the original fee-for-service plan compete on an equal basis with all other plans serving Medicare beneficiaries. A later version of the Breaux-Frist proposal (S. 2807) modified the drug benefit, eliminated the stop-loss protection for currently covered services, and continued the special status of the fee-for-service plan.

would have paid for those same enrollees in the fee-for-service sector. However, those relatively generous payment rates also enabled M+C plans to offer supplementary benefits to enrollees at little or no additional premium, helping to expand enrollment in that sector. The BBA reduced the rate of increase in payment rates for M+C plans, thereby reducing Medicare's costs but also causing plans to withdraw from some areas. For calendar year 2001, about 900,000 beneficiaries (about 14 percent of M+C enrollees) will be affected by such withdrawals. Plans that have not withdrawn are reducing the supplemental benefits they offer or charging higher premiums for them. Those responses by M+C plans might indicate that the payment rate changes in the BBA cut too deeply, but it is difficult to tell.[18] Therefore, it is not clear that higher rates will enhance access to care for beneficiaries. It is clear, however, that higher payments to plans and providers will increase long-term spending pressures on the Medicare program and reduce funding available for additional benefits, such as prescription drugs and preventive care.

Long-Term Reform

The large federal budget surpluses projected under current law have given policymakers confidence that the program will be adequately financed over the next decade. But over the long term, Medicare spending will grow much faster than the rest of the economy.

Medicare costs will increase dramatically after 2010, when the first of the baby boomers reach age 65. The number of beneficiaries will double over the next 30 years, and the growth rate of costs per beneficiary witnessed in the past may well accelerate with the aging of the Medicare population and continuing improvements in medical practice and technology. The Medicare trustees estimate that total Medicare spending as a share of GDP will nearly double over the next three decades, rising from 2.3 percent in 2000 to 4.4 percent in 2030.[19] CBO's long-term projections are even higher, predicting that Medicare spending will account for 5.6 percent of GDP by 2030.[20]

Although Medicare's financial condition has improved, policy actions must be taken if a balance between spending and revenues is to be maintained in the long term. Those actions might include options to increase premium revenues, change eligibility conditions to reduce the number of beneficiaries, reduce costs per beneficiary, or increase the payroll tax. Near-term examples for some of those approaches are set forth in Chapters 5 and 7. This section discusses more fundamental structural reform of the Medicare program.

The most direct way to reduce the spending pressure in Medicare would be to move from the current program, which covers a specific set of benefits and provides unlimited federal payments, to an approach that strictly limits the federal contribution to Medicare. For example, that contribution could be set to grow at some rate that could be sustained in the long run (such as the growth rate of the overall economy). If the cost of Medicare-covered services grew faster than the federal contribution, those additional costs would be borne by beneficiaries rather than by taxpayers. However, such a strict approach could sharply limit the financing available for health care and would transfer all the risk of excess growth in health care costs to beneficiaries. Unless other program changes were instituted that increased efficiency in the provision of Medicare services and thus slowed the growth in costs, many beneficiaries could ultimately have difficulty paying for basic Medicare services under such an approach.

An alternative approach would introduce mechanisms that would encourage more price competition among plans and providers while ensuring that growth in the federal contribution would at least match growth in premiums for qualified low-cost

18. The General Accounting Office believes its analysis indicates that the responses seen (withdrawal of home health agencies and M+C plans) are "adaptations to appropriately tightened payments following a period of unchecked growth." See General Accounting Office, *Medicare: Refinements Should Continue to Improve Appropriateness of Provider Payments*, GAO/T-HEHS-00-160 (July 19, 2000), p. 10.

19. *2000 Annual Report of the Board of Trustees of the Federal Hospital Insurance Trust Fund* (April 20, 2000), Table III.B1—HI and SMI Incurred Disbursements as a Percent of Gross Domestic Product, p. 82.

20. Congressional Budget Office, *The Long-Term Budget Outlook* (October 2000), p. 17.

plans in each geographic area—a competitive defined-benefit approach. One variant of this approach would set the government's contribution equal to the premium charged by the lowest-cost plan in each area, where Medicare's traditional fee-for-service sector would compete for enrollment on the same basis as private plans. All qualified plans would submit the premiums at which they would be willing to offer the basic Medicare benefit package (or better). Beneficiaries would be able to enroll in at least one plan for which they would pay no more than a modest premium. Because beneficiaries would pay the full additional premium of a more expensive plan, they would have a financial incentive to seek out low-cost plans. Competition among plans for enrollment would help induce plans to provide adequate service at the lowest possible cost.

The Clinton Administration's *Mid-Session Review* proposal, the similar proposal developed in the Senate (S. 2087) in the last Congress, and the premium-support proposal developed by members of the Medicare Commission (S. 1895) are all weaker variants of the competitive defined-benefit approach. That is because they do not base the government's contribution on the cost of the lowest-cost plan in each area. Of those three proposals, S. 1895 would have the strongest cost-constraining effects because Medicare's fee-for-service sector would not have special status; that is, its costs would no longer serve as the benchmark for the government's contribution. Instead, the benchmark would be set by the enrollment-weighted average of premiums from all plans. The government's contribution would cover all premium costs for enrollees who chose a plan with a premium less than 85 percent of that average, and enrollees who chose more expensive plans would pay most or all of the excess premium costs.

By contrast, both the Clinton Administration's proposal and S. 2087 would maintain the special status of Medicare's original fee-for-service plan, and beneficiaries who chose to remain in the fee-for-service sector would continue to pay only the Part B premium. The government's contribution to the premiums of private plans would be linked to fee-for-service costs, as under current law, and beneficiaries would pay the additional premium costs of more expensive plans. Unlike under current law, beneficiaries who chose less expensive plans would share (with the government) in the savings. Thus, private plans could compete not only on benefits, as they do now, but also on premiums. However, because the government's contribution would be linked to costs in the fee-for-service sector rather than to the costs of low-cost plans in the area, the incentive for enrollees to seek out low-cost plans would be weaker than it could be under the competitive defined-benefit approach.

How effective a competitive approach would be in reducing growth in Medicare costs over the long term is uncertain. For one thing, the approach could not be implemented in areas where the Medicare population was too small to support multiple plans. In such areas, the traditional fee-for-service plan might be the only option, and reforms to make that plan more efficient would also be important. Even in areas populous enough to support competing plans, extensive regulatory oversight would probably be necessary to ensure that plans were competing fairly, that enrollees were well informed, and that access and quality of care were maintained. Finally, it is unclear whether managed competition causes only a one-time reduction in cost for each enrollee who moves from fee-for-service care to a managed care plan that is more efficient, or whether it can also slow cost growth once all beneficiaries who will switch to managed care have done so.

Health Insurance Coverage

Despite significant economic growth over the past decade and the lowest unemployment rates in 30 years, millions of people do not have health insurance coverage.[21] Policymakers are clearly concerned about the uninsured, and they have advanced various

21. The Census Bureau reports that about 42.6 million people lacked coverage in 1998. Analysts believe, however, that number may be overstated because of difficulties collecting that information through a survey. According to the Department of Health and Human Services, for example, "it is thought that the [Current Population Survey] over-counts the number of individuals who have been uninsured for an entire year, possibly because respondents answer based on current rather than previous coverage status. In addition, Medicaid coverage status is likely under-reported." See Assistant Secretary for Planning and Evaluation, *Understanding Estimates of the Uninsured: Putting the Differences in Context*, available at http://aspe.hhs.gov/health/reports/hiestimates.htm.

proposals to increase the number of people with insurance coverage.

The effectiveness of alternative policies for increasing the number of people with insurance depends in part on who the uninsured are, the length of time and the frequency with which they have no health insurance, and the reasons why they do not have coverage or lost prior coverage. A lack of health insurance coverage is primarily a problem of the nonelderly since Medicare covers people over the age of 65.

Although policymakers have focused considerable attention in recent years on the lack of insurance coverage among children, adults account for most of the uninsured population. Just under 14 percent of children lacked health insurance coverage in 1999—down from more than 15 percent in 1998—compared with about 19 percent of nonelderly adults.[22] The group most likely to be uninsured is young adults ages 18 to 24, who are less likely than others to obtain coverage through employment but are no more likely to be eligible for Medicaid or another public program.[23]

The percentage of adults without insurance varies according to employment and income characteristics. In general, workers who are self-employed or who work in small firms are less likely to have health insurance than workers in large firms. Small firms may have higher health insurance costs than large firms because of smaller risk pools and higher administrative and marketing costs, and their costs are likely to continue to rise. Health insurance status is also correlated with income. More than a third of the nonelderly population with income below the poverty threshold lacks health insurance, compared with 15 percent of those with income above the poverty line.

Some people who become uninsured find new coverage in a fairly short time, although others remain uninsured for extended periods. The Current Population Survey, which collects information annually on the health insurance status of people, does not provide information on the length of time a person is uninsured. However, studies using the Survey of Income and Program Participation suggest that most people are uninsured for less than a year. According to a Census Bureau analysis, about 29 percent of the U.S. population lacked health insurance for at least one month over a three-year period beginning in early 1993.[24] Half of all observed spells without health insurance lasted 5.3 months or less; only about 3.7 percent of the population had no coverage for the full three years.

The high and rising cost of health care has been an important factor contributing to the problem of the uninsured. Although premiums for employer-sponsored insurance grew relatively slowly during the mid-1990s, premium increases of 10 percent or more—substantially greater than general price inflation—are expected over the next few years. Rising costs may lead employers to reduce health benefits or drop coverage for their workers. And workers who face higher insurance premiums and less generous coverage may be less likely to accept that coverage.

Declining Medicaid enrollment during the mid-1990s also contributed to the number of uninsured. According to the Census Bureau, the percentage of nonelderly people covered by Medicaid fell from 12.7 percent in 1993 to 10.4 percent in 1998. Enrollment remained at 10.4 percent in 1999, perhaps due to expansions in Medicaid and the State Children's Health Insurance Program (SCHIP). The implementation of welfare reform contributed to the earlier decline in Medicaid enrollment. Some people who are no longer eligible for cash assistance do not apply for Medicaid, even though they still qualify for that program. Those people might obtain Medicaid coverage if they became ill and sought medical care.

The uninsured remain an important focus of concern among policymakers. People without health

22. Robert J. Mills, "Health Insurance Coverage," Current Population Reports, Series P60-211 (Bureau of the Census, September 2000).

23. Some young adults do not buy health insurance when it is offered by their employers. That decision may seem reasonable to them since they are generally in good health, have relatively low earnings, and may not want to spend money on insurance premiums. Such a decision may not be desirable from a broader perspective, however, since some of those people will incur unexpectedly high health costs due to accidents or the sudden onset of serious illness. If they are unable to pay the extraordinary costs of their own care, those costs will usually be absorbed by providers and passed on to other patients through higher charges for service.

24. Robert L. Bennefield, "Who Loses Coverage and for How Long?" Current Population Reports, Series P70-64 (Bureau of the Census, August 1998).

insurance are less likely to receive basic health care services than are those with insurance. A lack of insurance exacerbates other barriers to appropriate treatment. Low-income people, in particular, may not have access to physicians' offices near their home, may lack transportation, and may risk significant income loss (including loss of employment) if they take time off from work to seek treatment for themselves or their children. They may delay treatment until a condition becomes serious, which can result in costlier treatment than would otherwise have been necessary. Moreover, hospitals and physicians are often uncompensated for the care they provide to uninsured people. As health care markets become increasingly competitive, providers have more difficulty covering those costs. As a result, less health care may be available to the uninsured.

Overview of Policy Approaches

Three broad policy approaches could increase the number of people covered by health insurance:

- Expanding the scope and funding of government insurance programs (policymakers have recently focused on broadening eligibility for existing programs rather than creating a new government insurance program);
- Providing additional tax incentives for health insurance purchased in the private market or from an expanded government insurance program; and
- Regulating the private market to expand options for the purchase of lower-cost health insurance.

An alternative to increasing the number of people with insurance, not discussed here, would increase the direct provision of health services to people without coverage. That could be accomplished by expanding government funding for public health clinics and other providers.[25]

25. Medicare and Medicaid also subsidize the provision of services to people without insurance through "disproportionate share payments" to hospitals that serve poor populations.

Various policies to increase the number of people with insurance coverage have been proposed in recent years. Many of those proposals combine expansions of federal health programs with broader tax incentives to help people purchase private insurance. In November 2000, for example, the Health Insurance Association of America, Families USA, and the American Hospital Association unveiled a plan that would:

- Expand Medicaid coverage to all people under 65 years of age with income up to 133 percent of the federal poverty level,
- Permit states to extend coverage under Medicaid or the State Children's Health Insurance Program to adults with income between 133 percent and 200 percent of the federal poverty level, and
- Offer businesses a nonrefundable tax credit to reduce the cost of health insurance for workers with income between 133 percent and 200 percent of the federal poverty level.

Such proposals recognize that there are many reasons why people do not have health insurance. A single policy approach may not be as effective as multiple approaches in extending coverage to the greatest number of uninsured people.

Proposals to expand either private or public insurance may increase the number of people with coverage, but they also provide an incentive for some insured people (or their employers) to drop their current coverage if it is less generous or more expensive than the new alternative. The displacement of private dollars by federal dollars, called crowding out, results in higher government costs and more participation in the new program than would be necessary if only people who could not get coverage participated. It is difficult to limit crowding out, however. Tough administrative restrictions, such as requiring that people be uninsured for some period of time before participating in a new federal program, could exclude many people. Moreover, federal subsidies provide additional benefit even to those who could have retained their existing coverage but instead opted for the new program.

The extent of crowding out grows with the size of the subsidy provided by the proposal. But subsidies approaching the full cost of insurance might be necessary to induce most low-income people who were uninsured to purchase coverage or participate in a government program. Consequently, the cost of an ambitious proposal seeking to cover most of the uninsured is likely to be disproportionately higher than that of a policy with more modest goals.

The cost of proposals to expand coverage depends in part on other legislative and regulatory policies that affect the health insurance market. Recent debate over the cost-containing actions of managed care plans, for example, has raised legislative interest in imposing new mandates on health plans that would increase access to specialist care, payment for specific services, coverage of certain benefits, and portability of insurance. If such mandates were enacted, they would increase the cost of private insurance and ultimately could increase the number of people without private coverage. The cost of a proposal to expand health insurance coverage could rise as a result of such mandates if coverage is made more expensive and if that coverage is attractive to a larger group of people.

In designing a specific policy, attention should be paid to the financial incentives provided to participants in new or expanded government insurance programs or to purchasers of newly subsidized private insurance. Traditional fee-for-service insurance discourages the overuse of medical services by imposing cost-sharing requirements, including a deductible and coinsurance. But such requirements could also discourage the use of necessary services by low-income enrollees. The Medicaid program addresses this issue by requiring only nominal copayments for covered services. As an alternative to financial incentives that limit overuse, some Medicaid programs offer services through managed care organizations. Those plans directly limit the provision of services through physician gatekeepers and other utilization management tools. Tax-incentive or regulatory approaches to expanding private insurance coverage could require similar incentives to minimize unnecessary use of medical services.

Expanding Government Insurance Programs

Three government programs—Medicare, Medicaid, and the State Children's Health Insurance Program—offer health insurance to elderly, disabled, or low-income people. Some 60 million people are expected to participate in those programs in 2001 at an annual federal cost totaling about $370 billion.

Of the three programs, Medicare is the only one that is completely financed and run by the federal government. Both Medicaid and SCHIP are partnerships between the federal and state governments. The federal government sets basic standards for insuring populations and guidelines by which states will be reimbursed for a portion of the expenditures they incur for insuring individuals, but the administration of both Medicaid and SCHIP is left to the states. A federal initiative to expand coverage in those programs is thus not simply a matter of providing more federal funds. States' interest in taking advantage of new coverage options may depend on granting more flexibility in how they may use those dollars to better accommodate the needs and circumstances of their populations. Even then, some states may not expand their programs enough to make full use of the additional funds.

Making Medicaid Eligibility Broader and More Uniform. Medicaid is an entitlement program that provides medical assistance to low-income people who are aged, blind, disabled, or members of families with dependent children. It also covers certain other pregnant women and children. The program is funded jointly by the federal and state governments, with federal payments ranging from 50 percent to 83 percent of total expenditures. Outlays for Medicaid in 2001 are expected to be about $130 billion for the federal government and nearly $100 billion for the states. About a third of Medicaid spending is for long-term care services.

Medicaid is the principal source of health insurance for low-income people, but that coverage varies among states. Federal eligibility requirements are complex, and states have wide latitude to set their own eligibility standards above federally mandated levels. States must cover pregnant women and children under age 6 with family income below 133 per-

cent of the federal poverty level. By 2002, states are required to phase in coverage for all children under age 19 with family income below the poverty line. In addition, states may provide Medicaid coverage to certain women diagnosed with breast or cervical cancer who would not otherwise be eligible.

Beyond those requirements, states vary widely in the populations they cover under Medicaid. At their option, states may cover pregnant women and infants (under the age of one) whose family income is at or below 185 percent of the poverty threshold; about 30 states do so. Although some states have not covered all people whose income is below the poverty level, other states have chosen to enroll particular groups of people with income considerably above the poverty line, using options available under current law or through waivers granted by the Health Care Financing Administration. As noted earlier, there is no guarantee that states will expand their programs even if federal funding is increased and federal restrictions on the use of those funds are loosened, although some states surely would.

The number of low-income people who are covered by insurance could be increased, for example, by broadening federal eligibility requirements for Medicaid to make them more uniform among states for people facing similar economic circumstances. Options might include requiring all states to cover pregnant women and children with family income up to 185 percent of the poverty threshold or to cover all people up to some income level. Permitting or requiring states to cover groups that are not traditionally covered under Medicaid is another way to expand coverage. The likelihood of states' implementing any of these policy approaches would increase by enhancing the federal matching rate for newly covered populations.

Such policies would probably increase the number of people with insurance, but not all people targeted by each policy would enroll. Some people might wish to avoid the perceived stigma of enrolling in a welfare program. Others might delay enrolling in Medicaid until they needed services. Still others —who, before the passage of welfare reform in 1996, might have been automatically eligible for Medicaid as recipients of Aid to Families with Dependent Children—might not realize that they were eligible for the new benefit. Special outreach efforts would probably be required for the expansion of the program to be effective.

Other people (particularly those with higher income) who enrolled in an expanded Medicaid program would have had insurance even without that expansion. Some of them would have purchased individual coverage but would choose Medicaid because of its lower out-of-pocket costs, broader benefits, or both. Others would have had employment-based coverage. Some employees would refuse that coverage if they became eligible for Medicaid when the program expanded. Some employers would also have an incentive to drop health insurance if most of their workers could obtain coverage elsewhere, although that might leave some workers uninsured.

Broadening federal eligibility requirements for Medicaid would have a differential impact on states, depending on the generosity of their current programs. Less prosperous states tend to have relatively narrow eligibility rules, at least partly because they are less able to pay for large programs. Those states might argue that mandating broader national eligibility requirements would impose an unreasonable fiscal burden on them.

Expanding the Scope of SCHIP. The State Children's Health Insurance Program provides enhanced federal matching funds to assist states in covering low-income children. Federal payments range from 65 percent to 83 percent of program spending, depending on a state's average per capita income. States may use SCHIP funds to expand Medicaid, to develop or expand other insurance programs for children, or to provide services directly. In addition, states may subsidize the purchase of family coverage through employment-based insurance if that option costs less than covering only the children.

The Medicaid program, as an entitlement, serves all those who are eligible and enroll, regardless of the federal cost. Federal funding for SCHIP, however, is limited in total and at the state level. Federal outlays for SCHIP are expected to be about $3 billion in 2001. States are developing programs that may ultimately enroll an average of 2.5 million children annually. Given the size and focus of the current program, the extent to which proposals to broaden

SCHIP would reduce the total number of people without health insurance depends on both the amount of new federal funding and the additional flexibility extended to the states to design and implement programs.

In enacting SCHIP, the Congress recognized that states might have difficulty starting new programs quickly. Consequently, states were initially given three years to spend their budgetary allocations; the Secretary of Health and Human Services would redistribute unspent funds in the fourth year to states that had spent their allocation. The Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000 extended to five years the time period in which states could spend a portion of their 1998 allotment. In addition, certain states may now use a greater portion of their SCHIP funds for outreach.

Some analysts have criticized SCHIP as too narrowly circumscribed to be effective in increasing the number of children with health insurance. Although states may now cover parents of eligible children by requesting a waiver from the Health Care Financing Administration, the authority to expand eligibility for SCHIP could be broadened and left solely to states' discretion. If states used that authority, more people would become insured through SCHIP, but some of them would have had group or individual coverage without the expansion. Some employers would discontinue their offer of insurance unless SCHIP subsidized that coverage.

Extending Medicare to Younger Ages. Unlike Medicaid and SCHIP, which do not offer insurance to all low-income people, Medicare provides nearly universal coverage to people age 65 or older and to many disabled individuals. In 2001, Medicare outlays will total almost $240 billion and will finance health services for 40 million people.

Options for expanding Medicare eligibility target older adults who are not yet 65. Those people have more difficulty obtaining insurance than do younger people, and their premiums are high because they use more health services. The Clinton Administration proposed allowing displaced workers ages 55 to 61 to purchase Medicare coverage. A separate proposal would allow certain people ages 62 to 64 to enroll voluntarily in Medicare.

The cost and effectiveness of such buy-in proposals depend on specific design features. The program for displaced workers would be narrowly targeted. Workers (and their spouses) would be eligible if they lost health insurance because of a job loss. Other eligibility requirements would include receiving employment-based health insurance for a period of time before enrolling in Medicare, being eligible for unemployment insurance, and exhausting coverage under the Consolidated Omnibus Budget Reconciliation Act (COBRA). (COBRA requires employers to offer unsubsidized health insurance to workers (and family members) that continues after workers leave their job.) Premiums under a Medicare buy-in would be set at relatively high levels. Participants would, however, be able to claim up to 25 percent of their buy-in premiums as an income tax credit. CBO estimated last year that about 90,000 people would be enrolled in the program at any one time by 2010. Those most likely to enroll would be people whose medical expenditures were higher than average for their age. Premiums would not fully cover program costs, and net Medicare outlays would rise by about $200 million between 2002 (when the program would have begun) and 2010. Tax revenue forgone due to the tax credit would amount to $700 million over that period, and federal outlays for unemployment compensation would increase by about $100 million.

The proposed Medicare buy-in for people ages 62 to 64 is designed to attract greater enrollment. Enrollment would be limited to people who did not have employment-based insurance, Medicaid, or coverage through another government program. They would have to enroll as soon as they became eligible, such as when they turned age 62 or when they first lost employment-based coverage if they were already older than 62.

People buying in to Medicare under those circumstances would pay premiums that would approximately cover their expected cost to the program over their lifetime. The premiums would be paid in two parts. Before the age of 65, enrollees would pay premiums that reflected the average expected cost of benefits if everyone ages 62 to 64 participated in the

buy-in. However, as with the buy-in for displaced workers, the people most likely to enroll would have higher costs than average for their age. Thus, premiums before age 65 would not fully cover the program's costs during those years. To offset those costs, people who bought in to Medicare early would pay a premium surcharge (in addition to their regular Supplementary Medical Insurance premium) once they reached age 65. Up to 25 percent of premiums paid prior to age 65—but none of the premiums paid subsequently—could be claimed as an income tax credit.

Using those specifications, CBO estimated last year that the buy-in for people ages 62 to 64 would increase Medicare outlays by about $46.2 billion between 2002 (when the program would have begun) and 2010. Premiums would total slightly more than that, resulting in a small net savings for the program. Tax revenues would be reduced by about $7.7 billion because of the tax credit. About 650,000 people would participate in 2002, and about 1.3 million people by 2010.[26]

Many of the people who would buy in to Medicare before they were 65 would have been insured even without the program. Most of them would have purchased coverage in the individual market. But the buy-in would give some people who were working and covered by employment-based insurance an incentive to retire early. CBO assumed that an additional 1 percent of workers ages 62 to 64 would retire early and buy in to Medicare if that option became available.

A policy that encouraged early retirement even to that limited extent would exacerbate long-term budgetary pressures. A buy-in policy could, however, be part of a broader initiative to slow the growth of Medicare spending. As discussed below, the early buy-in could be coupled with a gradual delay beyond 65 in the age at which people become eligible for full Medicare benefits, comparable with the increase in Social Security's normal retirement age.[27] The modest program savings that would be realized over the next 10 years from such an approach would grow rapidly in later years as an increasing number of people were affected by the change.

Some employers would drop their health insurance for retirees because of the availability of a subsidized Medicare buy-in. The prevalence of employer-sponsored retiree coverage has been declining, and the buy-in proposal would accelerate that trend. Other policy proposals, such as adding a Medicare prescription drug benefit, could worsen that adverse consequence of a buy-in. Such a benefit would also likely be subsidized, making it attractive to some firms to drop private insurance that was more expensive or less generous to their retirees.

Providing Tax Incentives for the Purchase of Insurance

The tax system currently provides substantial subsidies for health-related expenses, including the purchase of health insurance. The federal government annually forgoes over $110 billion in tax revenues, according to some estimates, by excluding from income and payroll taxes the contributions that employers make for health benefits and by allowing deductions for certain other health expenses. Those tax expenditures have significantly lowered the net cost of health insurance premiums and other payments for health services for millions of people, primarily benefiting the more than 170 million people with employment-based insurance. Existing tax incentives might be restructured, or new ones added, to encourage additional people to purchase health insurance.

Subsidies Under the Current Tax Code. The largest health-related federal tax subsidy is the exclusion of employers' payments for health insurance and other health expenses from workers' taxable income. Other health expenses that enjoy favorable tax treatment include benefits paid through cafeteria plans and flexible spending accounts, as well as employers' contributions for long-term care insurance. According to one estimate, the income tax exclusion ac-

26. Congressional Budget Office, *An Analysis of the President's Budgetary Proposals for Fiscal Year 2001* (April 2000), p. 48.

27. See option 570-19-B, Permit Early Buy-In to Medicare and Increase the Normal Age of Eligibility, in Chapter 5.

counted for over $65 billion in federal tax expenditures in 1998.[28] Employers' contributions for health benefits are also excluded from payroll taxes, accounting for about $30 billion in forgone federal revenues.

Self-employed taxpayers may deduct part of their health insurance payments from taxable income. That deduction is "above the line" and is available to people who use the standard deduction as well as to those who itemize. Under current law, a self-employed person may deduct 60 percent of health insurance costs this year. That deduction rises to 100 percent by 2003.

Taxpayers who itemize their deductions may also use the medical expense deduction, which is geared toward families who incur high medical expenses (relative to their income). That provision allows them to deduct unreimbursed medical expenses that exceed 7.5 percent of adjusted gross income. Medical expenses include health insurance payments paid by the taxpayers, out-of-pocket payments for medical care, and certain costs for transportation, lodging, and long-term care.

In addition, people who choose to purchase qualifying high-deductible health insurance and are not otherwise covered may establish tax-preferred medical savings accounts (MSAs). MSAs are personal savings accounts that can be used to pay deductibles, copayments, and other health expenses not covered by insurance. Consumer demand for MSAs has been weak, however. According to the General Accounting Office's evaluation of the MSA demonstration program authorized by the Health Insurance Portability and Accountability Act of 1996, only about 42,000 MSAs were opened as of the end of 1997.[29] Of that number, about 15,500 MSAs were opened by people who were previously uninsured. One explanation for the lukewarm response is the complexity of the health plan/MSA product that qualifies for the tax preference. That complexity has proven to be a barrier for both insurance agents and consumers. In addition, many people prefer insurance plans with a lower deductible than is permitted under the demonstration.

The tax system heavily favors health insurance purchased through employers over coverage purchased in the individual market. People without access to employment-based health insurance cannot take advantage of a substantial tax benefit, and they often face higher premiums than people who are covered through their job. Moreover, tax incentives in the current system are regressive. Since tax savings depend on the taxpayer's marginal rate, people in the highest tax brackets, who are most able to afford coverage, receive the largest subsidies. People who have low income and little or no income tax liability receive little or no subsidy if they buy health insurance.

The tax exclusion is an inefficient way to subsidize health benefits. Because the amount of employer-paid health insurance premiums that may be excluded from workers' taxable income is unlimited, that provision encourages employers to offer more insurance relative to cash compensation than they otherwise would. Excessive insurance also encourages covered workers to use more health services than they would if they were paying the full costs of those services. For that reason, some proposals would limit the amount of the tax exclusion while expanding other tax incentives.

Options for Expanding Tax Subsidies. Expanding tax subsidies for the purchase of health insurance could reduce the net cost of premiums, thus providing an incentive for more people to enroll in a health plan. The current structure of tax incentives could be extended to more people through the broader use of deductions, exclusions, or tax credits. However, simply extending those provisions to additional people would not address the inherent inefficiency of subsidies that rise in lockstep with health insurance premiums. That makes purchasers less sensitive to price increases and encourages the purchase of excessive insurance. Alternatively, the tax system could be restructured to expand insurance coverage more efficiently than at present.

People who do not have access to employment-based health insurance do not benefit from the tax exclusion and must pay the full cost of any coverage

28. John Sheils and Paul Hogan, "Cost of Tax-Exempt Health Benefits in 1998," *Health Affairs*, vol. 18, no. 2 (March/April 1999), p. 178.

29. General Accounting Office, "Medical Savings Accounts: Results from Surveys of Insurers," GAO/HEHS-99-34 (December 1998), p. 12.

they buy in the individual market. As a result, they are less likely to have health insurance than are people who can obtain coverage through an employer.

One option would allow those people to deduct their health insurance expenses from taxable income. For example, H.R. 2990, the patient protection legislation passed by the House last year but not signed into law, would establish an above-the-line deduction (not subject to the requirement that deductible expenses exceed 7.5 percent of adjusted gross income) for certain health and long-term care insurance costs. The deduction would be available to those who paid at least 50 percent of their health insurance costs. The provision would be phased in starting in 2002, and the full deduction would become available starting in 2007. The Joint Committee on Taxation (JCT) estimated that such a deduction would cost the federal government nearly $50 billion in lost revenues through 2010. The same legislation would also permit full deductibility of health insurance costs by self-employed individuals beginning in 2001 rather than 2003 under current law. That provision would cost about $2 billion in lost tax revenues through 2010 according to JCT's estimates.

An expanded tax deduction of this kind would be regressive—benefiting those with higher income more than those with lower income—and might provide the greater benefit for people who would have purchased insurance coverage anyway. This option would probably induce few uninsured people to purchase insurance because most of them have low or moderate income. According to JCT, only about 6 percent of the 13.1 million taxpayers who would claim the above-the-line deduction in 2007 under H.R. 2990 would otherwise be uninsured. The other 94 percent would have purchased insurance without the expanded deduction. In that year, the total cost of this provision would be about $7 billion, or about $4,250 for each newly insured person under the assumption that an average of two people would be covered under each policy. Although such a proposal would have limited effectiveness in increasing the number of people with health insurance coverage, it would eliminate the apparent inequity of providing tax subsidies to people who have employer-sponsored coverage.

Another option would offer a tax credit to people purchasing insurance in the individual or group market. That approach would be less regressive than expanding a tax deduction, but people with no income tax liability would not benefit unless the credit was refundable. A number of tax credit proposals were introduced in the 106th Congress. Those proposed credits were typically refundable and ranged from $500 to $1,200 for individual policies and $2,000 to $3,600 for family coverage.

The amount of a tax credit would have to be fairly large—approaching the full cost of the premium—to induce a large proportion of the uninsured population to buy insurance. Many uninsured people have low income and would not be able to pay much toward their health insurance. Some may be counting on the services of public hospitals and other publicly supported providers, which often write off the costs of care or require only modest payments from their patients. Moreover, many people who might be induced to buy insurance because of a tax subsidy would have access only to the individual market, whose premiums are generally higher than those in the group market. To make coverage more affordable, some tax credit proposals would permit uninsured people to buy in to government-sponsored insurance programs, including Medicaid, Medicare, or the Federal Employees Health Benefits program.

Other, more sweeping proposals would alter the current tax treatment of health insurance benefits in the context of a new tax credit. As discussed above, one approach would limit the amount of the tax exclusion, which would increase tax revenues and discourage the purchase of excessively generous insurance. For example, the maximum health insurance spending that could be excluded from taxable income could be limited to the cost of a health plan that provided coverage of basic services. The additional cost of more expensive insurance would then be unsubsidized. The additional tax revenues that would be collected could be used to finance a refundable tax credit. Another approach would replace all of the current tax preferences for employment-based coverage with a tax credit for everyone purchasing insurance. Such a credit could be used to purchase insurance as many people do now, through their employers. Other proposals would make the credit available only to people who buy insurance through the indi-

vidual market, effectively eliminating the role of employers. That might reduce the risk of having workers lose insurance coverage if they changed jobs.

Any proposal to expand tax incentives for the purchase of health insurance would have to deal with a host of technical issues that would determine the proposal's cost and effectiveness in increasing insurance coverage.[30] Some of those issues include:

- Defining the eligible group,
- Relating the subsidy to family income or some measure of need,
- Timing the receipt of the subsidy to coincide with the payment of premiums, and
- Defining and enforcing new regulatory standards for qualified insurance plans.

A tax subsidy could be targeted toward people who did not have access to employment-based coverage, or it could be made available to a broader group. Making a subsidy available to all who purchase health insurance might be the easiest policy to administer, but a substantial amount of federal aid would go to people who would have been insured anyway. Narrowing the focus to those who did not have access to employer-sponsored insurance might be more cost-effective, but it would be administratively more complex. Any coverage that might have been available to a person and possibly a spouse would have to be verified, possibly long after the fact. In addition, such an approach might encourage employers to drop their health plans. Requiring employers to continue to offer that coverage could be difficult to enforce.

Tax subsidies could readily be tied to a family's income. But low family income, by itself, might be a criterion that distributes those subsidies inefficiently. A more complete indicator would reflect both income and the level of health costs. The subsidy might also be adjusted to reflect variations in the average cost of health care in different geographic locations or other factors. Such adjustments might help ensure that people in high-cost areas could buy as much care as people in low-cost areas.

30. For a more complete discussion of those issues, see Jack A. Meyer and others, *Tax Reform to Expand Health Coverage: Administrative Issues and Challenges* (Menlo Park, Calif.: Henry J. Kaiser Family Foundation, 2000).

An often-voiced concern about tax subsidies is that they would provide cash to families only at the time of tax filing, not when the cash was needed to pay premiums throughout the year. The health insurance tax credit that was available during the early 1990s did not offer payment advances, for example, and participation was well below expectations. One way to implement payment advances would be to lower income tax withholding. But making such adjustments precisely could be difficult, and some people might face unexpectedly high tax bills the following year. In addition, some other method of making advances would be needed for people who were eligible for a tax subsidy but did not have earnings.

Standards would be needed to define how health insurance plans that qualify for a tax subsidy could operate. Such standards might define a minimum benefit package that all health plans would have to offer, limit cost-sharing requirements, and establish other regulations for the private insurance market. Those regulations might include rules for medical underwriting, requirements to make insurance coverage available and renewable, limits on the premiums that may be charged, and other issues. Such standards and regulations are typically intended to protect consumers by minimizing opportunities for selection by insurers. Insurers might compete for healthy, low-cost policyholders by offering less comprehensive, and less expensive, coverage that is unattractive to sicker consumers who expect to use more health care. Standards specifying a minimum benefits package would limit the ability of insurers to profit from that favorable selection. Such standards could lead insurers to offer broader benefits to both healthy and less-healthy consumers, but at higher costs than might have been the case without those standards.

Expanding Private Coverage Through Regulation

Expanding government health insurance programs or increasing the generosity of tax preferences for health insurance could require substantial new budgetary costs. Alternatively, regulation of the private insurance market could be modified with the intention of

increasing health insurance coverage. Regulatory approaches have the appeal of not requiring new government spending, but they generally would impose additional costs on employers and the insurance industry that would ultimately be paid by consumers.

Both the Congress and the states have passed legislation affecting the benefits, cost, and accessibility of private health insurance, but the states have primary responsibility for regulating insurance. All states have passed legislation mandating the inclusion of specified benefits in health plans, which may have increased the cost of insurance. Most states also require insurers to issue insurance to all groups who apply and to guarantee the renewal of that coverage, and states frequently regulate the premiums that may be charged for health insurance. In addition, some states have passed legislation creating health insurance purchasing cooperatives to facilitate insurance coverage for employees in small firms.

Federal regulatory initiatives have been intended to ensure more continuous coverage for people who are usually insured and to increase the number of lower-cost options available in the small-group market. Additional proposals might be considered to improve the availability and portability of insurance coverage and to reduce the cost consumers pay for that coverage.

Improving Insurance Availability and Portability. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) addressed concerns that workers had become locked into their current employment because they risked losing insurance coverage for some period of time if they changed jobs. That act expanded COBRA protections for workers who leave their job. It also required insurers to make insurance available to people who had prior group or employer-sponsored coverage, and it guaranteed renewal of that coverage. The law limited the use of exclusions for preexisting conditions, which exempt the plan from paying for expenses related to a medical condition that already existed when the enrollee joined the plan.

The insurance mandates in HIPAA were intended to make group health insurance more available to workers and to make it easier for workers to change jobs by making that coverage more portable. But the law also imposed costs on insurers that would increase premiums somewhat—by about $500 million annually by 2001, according to CBO's estimates. The impact on insurance enrollment is uncertain: the increase in cost would tend to reduce coverage, but the loosening of insurers' restrictions would increase enrollment by some groups of people.

Additional initiatives might be considered to improve the continuity of private insurance coverage. Some options would extend the period of time over which COBRA coverage was available or broaden the availability of that protection. For example, firms that dropped their retiree health benefits might be required to offer their early retirees who were enrolled in the health plan extended COBRA coverage —perhaps until those retirees reached age 65 and became eligible for Medicare. Such a requirement could discourage employers from dropping their retiree health plans, but it could also discourage employers from offering coverage in the first place. Expanding COBRA coverage in that way would raise the cost of health insurance for workers, and fewer employees would enroll.

Making Small-Group Insurance More Affordable. Employees in small firms typically face higher health insurance costs than those in larger firms and are therefore less likely to have health coverage. Small firms typically face high premium costs because the risk associated with a small number of employees in the insurance pool is significant. In addition, the administrative cost of small-group policies tends to be high because there are fewer employees among whom to spread the cost. As a result, premiums in the small-group market are relatively high, discouraging firms with healthier employees from offering coverage. Moreover, small firms may face substantial increases in premiums if even one of their employees experiences high medical costs in a year. Large firms, in contrast, generally pay lower premiums because they can spread the risk of a high-cost employee over a much larger insurance pool.

Small firms lack purchasing power, limiting their ability to bargain for lower rates from providers and insurers. They have fewer employees to pay the fixed costs of a health plan, including marketing and enrollment, so their average administrative expenses are high. And small firms generally purchase cover-

age that is subject to state benefit mandates and premium taxes, both of which increase average premiums. Larger firms that self-insure are exempted from those state insurance regulations by the Employee Retirement Income Security Act.

Concerns about the affordability of insurance coverage in the small-group market have prompted recent proposals to establish association health plans (AHPs) and HealthMarts. Those new entities are intended to provide small firms and their employees with some of the premium-lowering cost advantages enjoyed by larger firms, including lower administrative costs and enhanced purchasing power. AHPs and HealthMarts would also enable small firms to avoid some regulations that generally increase their insurance costs.

AHPs could be sponsored by trade, industry, or professional associations and could offer a full range of health plans, including a self-insured plan, to their member firms. Both self-insured and fully insured plans (offered by a licensed insurer) would be exempt from state-mandated coverage of benefits. An AHP would offer its plans only to members of its sponsoring association and could price its premiums to reflect the expected health care costs of its association members rather than the costs of the small-group market as a whole.

HealthMarts would be nonprofit organizations that offered health insurance products to all small firms within an approved geographic service area. A HealthMart would have to make all of the plans it offered available to any small employer within its service area. Health plans offered through HealthMarts would be exempt from most state benefit mandates. Like AHPs, HealthMarts could offer premiums reflecting the expected health care costs of potential enrollees in small firms in its designated geographic service area rather than the entire small-group market in the state. Unlike AHPs, HealthMarts could offer only fully insured plans from insurance issuers licensed in the state.

Insurance offered through AHPs and HealthMarts could significantly lower premiums for some small firms compared with coverage offered in the traditional (fully regulated) small-group market. Some of those premium savings would result from exempting AHPs and HealthMarts from state-mandated coverage of benefits that may not be strongly demanded by employees of small firms. AHPs and HealthMarts would also attract firms with healthier-than-average employees, further lowering their own premiums (but modestly raising the average premium paid in the remainder of the small group market). Other savings might result from reduced administrative costs or increased market power through group purchasing. Those savings would most likely be modest, however.

The exemption from state-mandated benefits could foster the favorable selection of firms with healthier employees. AHPs and HealthMarts might design benefit packages that were relatively unattractive to firms whose employees had costly health care needs. Lower-priced plans with leaner benefits might appeal both to firms that offered no coverage to their employees and to firms with healthy employees that already offered insurance.

If firms with healthier-than-average employees switched from traditional coverage to AHPs and HealthMarts, premiums for some firms in the traditional market would rise. However, proposals generally include requirements that would limit the ability of AHPs and HealthMarts to attract healthier groups. AHPs would have to offer their plans to any small firm that qualified for membership in the sponsoring association. Similarly, HealthMarts would have to make their plans available to any small firm located in a HealthMart's designated geographic area. And both types of plans would be subject to limits on the premiums they could charge. Moreover, aggressive efforts by AHPs and HealthMarts to obtain favorable health risks would add to administrative costs, which could temper such efforts to attract healthier groups.

In a recent analysis, CBO estimated that introducing the new entities would increase the number of people insured through small firms by approximately 330,000.[31] Many more people—about 4.6 million —would be attracted to the new plans by their lower premiums, but most of those people would otherwise have been insured through the small-group market.

31. See Congressional Budget Office, *Increasing Small-Firm Health Insurance Coverage Through Association Health Plans and HealthMarts*, CBO Paper (January 2000).

Some firms and workers in the traditional market would drop coverage because their premiums would increase, but most would continue their coverage and pay slightly higher premiums.

Education

The federal government historically has played a small role in funding the U.S. education system. While the Department of Education administers about 175 programs, federal funds represent only about 7 percent of the cost of public elementary and secondary education. State and local tax revenues provide most of the funding for public schools; parents of students in private schools pay most of those costs.

The same is true for other types of education. Most of the cost of preschool is paid by parents, with limited support from government sources for children in poor families. And although the federal government is providing about $23 billion in 2001 to help students pay for their postsecondary education through grants, loan subsidies, and tax benefits, family contributions and state subsidies have always been far more significant sources of funding for colleges and universities.

Nonetheless, the success of the education system is critical to the future of the nation, and there is no shortage of proposals at the federal level to improve education outcomes. The broad goals of those proposals are to promote equal opportunity; enhance the skills, productivity, and income of future workers; and provide greater assurance that children will become adults who can function effectively in society. Specific proposals might be more or less successful in achieving those goals.

Some of the proposals would require only small amounts of additional federal spending. One such option would require states, as a condition of receiving federal education aid, to use national tests to measure the educational performance of their children. Most states voluntarily participate in the National Assessment of Educational Progress, a program that assesses the performance of samples of fourth- and eighth-grade students in reading and math. That program allows comparisons of students' performance across states and subgroups of schools or students and comparisons over time. It also measures what children can do in comparison with what educators believe they ought to be able to do by certain ages.

However, comparisons of students' test scores across states may not provide useful information on the performance of their education systems. For example, it is not clear how much of a difference in test scores can be attributed to school systems' performance and how much is due to factors beyond the classroom. Parental support and a home environment that encourages learning may be more important than school in helping children gain those cognitive and behavioral skills that will help them succeed in school and beyond.

An alternative approach might be to require states to administer an annual assessment of their own design to all children in key grades. That would allow for assessment of the academic achievement of individual students over time and the performance of individual schools over time, which is not possible with the National Assessment of Educational Progress. While state-designed assessments do not allow comparisons among states, they can be linked to state curriculum standards and do allow parents and school administrators to track the progress of a student and the performance of a school in relation to those standards. In fact, states might be required to publish school report cards from those assessments in ways that are easy for parents to understand and use.

Another option would relax many of the rules governing the use of federal education funds by states and school districts, but at the same time make them accountable for producing positive results with those funds. Many existing federal education programs that aid states and school districts target specific populations of children or specify particular strategies for improving education. Combining funding for several of those programs into a single block grant that could be used for any of the purposes of the component programs would give states and school districts the flexibility to direct federal aid toward the schools' greatest needs. Requiring states to demonstrate progress (such as specified improvements in students' test scores) would hold them accountable

for their use of the federal funds. States that failed to meet their goals could lose a portion of future federal funds.

A fourth option would use existing federal education funds to provide vouchers to low-income students who attend underperforming public schools, enabling them to enroll in another public or private school of their choice (including charter schools). Under one such proposal, the average amount of federal Title I aid per student (about $1,500) would be made available to each student in a school that does not raise its educational performance to an adequate level within three years. The students would be able to attend another public school and use vouchers for tutoring or other educational resources, or they could use vouchers to help pay for tuition to attend a private school. Only a few school districts in the United States have experimented with voucher programs, and the evidence of their effectiveness in raising educational performance is mixed.

Many other proposals would require significant increases in federal spending. Prominent among education spending initiatives are these strategies:

- Help children become better prepared to learn when they enter school by expanding the availability of preschool programs, most notably Head Start;
- Improve the effectiveness of elementary and secondary schools by hiring more teachers and improving their training, as well as making improvements in facilities and other infrastructure; and
- Increase support for investment in education beyond high school by expanding federal student aid programs, especially Pell grants.

Expanding Preschool Education

Adequate preparation is a critical factor for success in school. Some analysts believe that the greatest return from additional spending in education could be obtained by investing in early childhood education.

Although universal public schooling is available starting at age 5, many younger children attend preschool programs. About 46 percent of 3-year-olds attend some type of center-based program, as do about 70 percent of 4-year-olds. Even with existing federal efforts focusing on low-income children, however, preschool attendance rates remain lower among children from lower-income families than among those from higher-income families. In 1999, the preschool enrollment rate for 3- and 4-year-olds from families with annual income below $20,000 was 52 percent, compared with a rate of 68 percent for children from families with income above $50,000.

Head Start is the primary federal preschool program serving poor children. It provides a comprehensive set of services, mostly to eligible 3- and 4-year-olds, that includes child development, education, health, nutrition, social, and other services. The program strives not only to improve the education outcomes of children but to achieve other goals as well, including improving health status and reducing aggressive and other antisocial behavior.

In 2000, the program enrolled an estimated 877,000 children, about 70 percent from families with annual income below $12,000. The average federal service grant per child was about $6,000, with funds going directly to the approximately 1,500 public and private nonprofit agencies that operated the Head Start centers. In general, local grant recipients must generate contributions from other sources valued at 25 percent of the federal service grant.

Federal funding for Head Start has grown rapidly in recent years, rising from about $1.2 billion for the 1989-1990 program year to about $6.2 billion for the 2001-2002 program year. Increases occurred with the rise in the number of 3- and 4-year-old participants, which nearly doubled, and with the introduction of the Early Head Start program. That program provides early intervention services to pregnant women and families with infants and toddlers.

The Effectiveness of Preschool Programs. Two mechanisms could explain how children's experiences at age 3 or 4 might improve their subsequent

education outcome.[32] Preschool might improve children's ability to think and reason as they enter school, enabling them to learn more in the early grades and keeping them "on track" toward high school graduation. It might also help increase their motivation to learn. The success children have in early grades could lead to higher expectations and added support from their parents and teachers, increasing their drive to succeed.

The effectiveness of preschool programs remains unclear, however. Most analysts agree that early childhood education programs in general can have positive short- and medium-term effects on participants' cognitive and social development, but there is less evidence about the longer-term effects of the programs. Although cognitive gains may fade, other effects—such as lower placement rates into special education and lower retention in grade—seem to persist.[33]

While analyses of small-scale "model" preschool programs find long-term reductions in crime, teenage childbearing, and use of social services, those effects may not pertain to Head Start. Head Start teachers are often less well trained than teachers in model programs. Likewise, most Head Start programs do not provide some of the services, such as in-home tutoring, that are usually part of the model programs. Although both types of programs generally show favorable effects on reducing the placement of students in special education programs and on reducing the retention of students in grade, the question of Head Start's effects on participants in the long term remains open. In 1997, the General Accounting Office concluded that the body of specific research on Head Start was inadequate for use in drawing conclusions about the impact of the national program.[34]

32. Deanna S. Gomby and others, "Long-Term Outcomes of Early Childhood Programs: Analysis and Recommendations," *The Future of Children: Long-Term Outcomes of Early Childhood Programs*, David and Lucile Packard Foundation, Los Altos, Calif., vol. 5, no. 3 (Winter 1995), p. 10.

33. Janet Currie, *Early Childhood Intervention Programs: What Do We Know?* Working Paper No. 169 (Chicago, Ill.: Joint Center for Poverty Research, April 2000).

34. General Accounting Office, *Head Start: Research Provides Little Information on Impact of Current Program*, GAO/HEHS-97-59 (April 1997), p. 2.

Expanding Head Start. Various proposals have been made to increase federal support for preschool education. Some options would make services like those provided in Head Start available to more 3- and 4-year-olds. Other options would increase the services provided to children already enrolled, including expanding the length of the program from half-day to full-day, or focus funding on programs that provide services to parents and to children at younger ages.

A specific proposal would be to increase Head Start funding sufficiently to enroll all 3- and 4-year-olds from low-income families. In 1999, more than 30 percent of eligible 3-year-olds and about 60 percent of eligible 4-year-olds were enrolled in the program. Enrolling all children from families with income below the federal poverty threshold today could raise the program's annual price tag from about $6.2 billion to about $10.6 billion if the average federal service grant per Head Start enrollee remained unchanged. Also, because federal funds cover only 80 percent of Head Start's costs, expansion would be limited if states were not able to finance their 20 percent of the cost. In that case, the federal costs would be even higher.

The federal costs also could be higher than $10.6 billion per year for other reasons. First, although the existing programs often make use of underutilized facilities and volunteer staff to reduce costs, significant further expansions of the program would be likely to exhaust those opportunities. Providing more classrooms and training more teachers to meet the program's expanded requirements would demand additional resources. Second, a larger program would need to attract new teachers away from other jobs and career paths by offering them higher salaries. To prevent dissatisfaction and turnover among current teachers, their salaries would probably have to be raised as well. Third, for the positive effects of the model preschool programs to carry over to Head Start, many Head Start teachers would probably need increased training, and the program would have to provide an expanded array of services to participants and their families.

Achieving 100 percent enrollment of 3- and 4-year-olds from low-income families would be very unlikely, however—thus reducing the cost of the option. Many parents prefer home-based care, regard-

less of the availability and cost of center-based care. And the half-day schedule of most Head Start centers conflicts with the schedules of some working parents. It might be difficult for those parents to find adequate child care for the remaining part of the day and arrange for the transfer of their children from one place to another. Finally, the location of some Head Start centers makes them inconvenient for some families with limited transportation options.

Improving Elementary and Secondary Education

The federal government will provide approximately $27 billion in aid to elementary and secondary schools in the 2001-2002 academic year to fund a range of activities. Some aid supports improved education for children who are poor or have disabilities; other aid finances education reform and school improvement initiatives.

The government's first major effort to aid public elementary and secondary education (the Title I program) began in the mid-1960s as part of the war on poverty. Experience since then has shown that increasing the quality of schools that poor children attend can go only a small way toward closing the gap between their academic achievement and that of their higher-income peers. Other factors, such as difficult home situations and detrimental neighborhood influences, can undermine the efforts of schools to increase achievement but are much more difficult to address through federal policies. Federal spending on disadvantaged children through state grants for Title I totals $9.4 billion in 2001, or about one-third of all federal spending on elementary and secondary education.

In 1975, the Individuals with Disabilities Education Act became law, requiring states and school districts to provide a free, appropriate public education to children with disabilities. Doing so is very expensive. By some estimates, the cost of educating a disabled child is two to two-and-a-half times the cost of educating a nondisabled child, although that figure probably varies widely among states and school districts.[35] In passing that act, the Congress authorized a federal contribution for each disabled child served of up to 40 percent of the national average per-pupil expenditure for all students. At about $6.3 billion, however, current federal funding gives states only about 15 percent of the national average per-pupil expenditure. Providing states with the 40 percent amount would require an additional $10.4 billion a year, assuming that the number of children identified as disabled remained unchanged.

Since the early 1990s, federal education policies have focused on a very different way of improving education outcomes. Along with continuing to aid special populations of students, those policies have encouraged broad-based education reform and improvement in schools.

Proposals to increase the effectiveness of U.S. schools range from state-level, top-down strategies to grass-roots strategies that address local problems. An example of a top-down strategy is one that would require states receiving federal funds to develop standards for what children should know in various grades and help states develop assessments of students' performance in various subject areas. An example of a grass-roots strategy is one that would support local groups that want to start charter schools, which implement specific education strategies appropriate to local needs.

Other recent proposals would strive to improve schools by expanding or improving the inputs into the education process. Some proposals would support the professional development of teachers in areas such as science and math or would improve the quality of teachers by funding mentoring programs that team experienced teachers with inexperienced ones. Other proposals would support state and local efforts to improve school facilities, including constructing and renovating school buildings and bringing Internet access to classrooms.

The quantity and quality of teachers are critical determinants of a school's success. Public elementary and secondary schools today employ over 2.9

35. M.T. Moore and others, *Patterns in Special Education Service Delivery and Cost* (Washington, D.C.: Decision Resources Corporation, 1988).

million teachers. More than half of them have a master's degree, and the median teacher has more than 15 years of teaching experience. Their average salary is an estimated $44,000 for the school year, and the starting salary is about $30,000.

Increasing the number of teachers in the early grades, thereby reducing class size, could be one way to improve education outcomes. Kindergarten classes have 20 children on average, and averages for the early elementary grades are somewhat larger. The Congress appropriated $1.6 billion for academic year 2001-2002 to help reduce class size to 18 students per teacher in grades K through 3, and proposals have been made to continue and increase that amount.

Perhaps the best research evidence on the effectiveness of smaller classes on students' achievement is Tennessee's STAR project.[36] Children entering kindergarten were randomly assigned to small classes of 13 to 17 students and regular classes of 22 to 26 students. Through third grade, students in small classes outperformed those in regular classes on both standardized and curriculum-based tests. (For minority students, the positive effect was twice that for nonminority students.) Beginning in fourth grade, all students went to regular classes. At least through eighth grade, a decreasing but still significantly higher level of achievement persisted for students who had been in the small classes.

One critique of those generally positive results is that the gains from being in a small class did not accumulate over time. If education is cumulative, with each year building on what was learned in the previous years, then children assigned to small classes would be expected to pull farther away each year from their counterparts in larger classes. In fact, the evidence shows such advances only in the first year and, to some extent, the second. After that, while the performance of students in small classes exceeded that of students in larger classes, there was no additional gain from being in a small class.

36. E. Ward and others, *Student/Teacher Achievement Ratio (STAR): Tennessee's K-3 Class-Size Study* (Nashville, Tenn.: Tennessee State Department of Education, 1990).

Reducing class size in kindergarten through third grade by five students per class would require hiring approximately 250,000 additional teachers. Paying those additional teachers at current beginning compensation levels would cost about $10 billion per year.

The salaries of both current and new teachers would probably have to be raised to meet the extra demand, however. Those higher salaries could add another $4 billion to $8 billion annually to the price of this option, under the assumption that salaries of all elementary teachers rose by 5 percent to 10 percent. Additional costs would be incurred to recruit and train teachers, to give salary increases in future years, and to build the added classrooms that would be needed to accommodate the larger number of classes.

Hiring a large number of new teachers quickly could also require hiring some underqualified ones —ones who did not meet the usual state standards. This problem has occurred recently in California, as that state implemented its own program to reduce class size. Underqualified teachers could be given a limited time to increase their qualifications to acceptable levels, but that added demand could overuse and dilute the quality of teacher-education resources. Some or all of the value of the smaller classes could be lost if the teachers in those classes were underqualified.

The task of reducing class size would be made even harder by the impending retirement of a large share of current teachers. Nearly 50 percent of elementary and secondary school teachers today—about 1.4 million teachers—are age 45 or older. Finding replacements for those experienced teachers when they retire would add considerably to the difficulty of expanding the overall number of teachers.

Promoting Greater Investment in Higher Education

Enrollment rates in postsecondary schools have increased in recent years, as have the monetary returns from a college education. However, the cost of postsecondary education has also grown, having outpaced

the growth in family income for more than two decades.

The federal government has long promoted attendance at colleges and trade schools. Currently, about 80 percent of students from upper-income families enroll in college or trade school immediately after high school graduation. In contrast, fewer than 50 percent of students from low-income families enroll, even with the availability of significant amounts of federal and other aid. Perhaps the most important goals of federal policies for higher education are to remove the financial barriers to attendance faced by low-income students and to keep college affordable for middle-income families.

To help achieve those goals, the Congress created several programs, including a federal student loan program in 1959, the Pell Grant program in 1972, and tax credits for postsecondary education in 1997. Last year, the student loan program provided $33 billion in loans to about 5.5 million students and their parents at a federal cost of approximately $5.0 billion. The Pell Grant program provided more than $7.0 billion in aid to nearly 4 million students with very low income. And for the 1999 tax year, more than 10 million filers received an estimated $5.2 billion in education tax credits and deductions for interest on student loans.

In recent years, the Congress has increased federal student aid in several ways:

- By reducing the interest rate on nearly all federal student loans by 0.8 percentage points in 1998 through 2003;
- By increasing the maximum Pell grant incrementally from $2,900 for academic year 1997-1998 to $3,750 for 2001-2002;
- By creating tax credits of up to $1,500 for tuition expenses and tax deductions for interest expenses on student loans; and
- By making earnings on contributions to education savings accounts and state prepaid tuition plans tax free or tax deferred.

The Effectiveness of Student Aid in Increasing College Attendance. The availability of student financial aid—from the original GI bill to the more recent federal grant and loan programs—has allowed many students to attend college or trade school who otherwise would not have, and others to pursue their postsecondary education further. On the basis of recent studies of students' experiences in the 1980s and Georgia's HOPE Scholarship program in the 1990s, a $1,000 increase in grant aid to all high school graduates would increase the proportion attending college or trade school by 4 percentage points.[37] Similarly, based on another study, a $1,000 reduction in tuition at public two-year colleges is associated with a 7 percentage-point increase in enrollment rates among 18- and 19-year-olds.[38] There was no disproportional growth in enrollment by low-income youth relative to high-income youth, however, after the Pell Grant program was established in the mid-1970s. It appears that young people are sensitive to the cost of continuing their education beyond high school but that problems in understanding and applying for financial aid may deter college attendance, particularly among youth whose parents did not attend college.

Although the size of the effect is difficult to estimate, federal aid does induce some students, particularly those from low-income families, who would not have attended college or trade school to enroll in postsecondary education. It also increases the length of time some lower-income students remain in school. However, the aid also subsidizes many students who would have attended school without it.

Increasing Pell Grants. One option to promote greater investment in postsecondary education would target additional aid toward students with low income by expanding the maximum award in the Pell Grant program. That award could be increased from its current appropriated level of $3,750 to the full autho-

37. Susan M. Dynarski, *Does Aid Matter? Measuring the Effect of Student Aid on College Attendance and Completion*, Working Paper No. 7422 (Cambridge, Mass.: National Bureau of Economic Research, November 1999), and Dynarski, *Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance*, Working Paper No. 7756 (Cambridge, Mass.: National Bureau of Economic Research, June 2000).

38. Thomas J. Kane, *Rising Public College Tuition and College Entry: How Well Do Public Subsidies Promote Access to College*? Working Paper No. 5164 (Cambridge, Mass.: National Bureau of Economic Research, July 1995).

rized limit of $5,400 in 2002. Doing so would raise the cost of the Pell Grant program from $9.3 billion to about $15.7 billion.

Most of the added funding would go to the estimated 4 million current Pell grant recipients, whose average award would increase from $2,330 to nearly $3,600. The higher limit would also raise the number of students who were eligible for Pell grants, adding about 600,000 new recipients to the program.[39] Finally, raising the maximum Pell grant would induce some young people to enroll who previously found college or trade school too expensive. An estimated 300,000 new students would be added in that way.

In addition, the more generous aid would increase the number of affordable choices available to some young people already attending school. Some students might transfer from a two-year college near their home to a state four-year college farther away. Others might give up jobs to focus entirely on school.

Several other considerations would affect the desirability of increasing the federal grant. Pell grants are available to any low-income student who has graduated from high school or passed the General Education Development tests. Many students who enroll in college drop out before graduating, in part because some of them are probably not adequately prepared. Increasing the amount of financial aid that is available might be more effective if steps were also taken to better prepare students.

One way to motivate students to prepare for college is to make them aware of available aid early in their school career. Some analysts believe that middle-school students are generally unaware of the amount of federal aid that is available to them and might therefore underestimate their ability to go to college. Programs to make all seventh- or eighth-grade students more aware of college aid might improve their preparedness for, and enrollment in, college.

A final consideration is that a large part of the gain from higher education today is a private benefit. College graduates with a bachelor’s degree earn substantially more than people with only a high school diploma. Furthermore, attending college enriches students' lives in other ways that are long lasting and extend to their children. Because students enjoy most of the benefits, one can argue that they should bear most of the cost. Accordingly, the role of federal policy might be to ensure that students who want to attend school are not prevented from doing so by temporary financial constraints; that could be achieved by increasing the availability of education loans. Although financing their education with loans increases the amount of debt the students amass by the time they leave school, federal policies already exist to provide borrowers with options for repaying loans that make the burden more manageable. For example, borrowers may extend the repayment period beyond the usual 10 years or choose graduated payments that rise over time with expected increases in income.

39. A student is eligible to receive a Pell grant equal to the appropriated maximum less the student’s and his or her family's expected contribution, which is based on family income and the number of siblings in college at the same time, but no more than the difference between the cost of education and the expected family contribution. Consequently, as the appropriated maximum increases, more students become eligible for grants who previously had an expected contribution near or above that maximum.

Chapter Three

Investing in Physical Capital and Information

A period of prosperity and fiscal strength provides a natural opportunity for the beneficiary, whether a household, corporation, or country, to consider spending more on investments—current expenditures intended to provide future gains. When effective, investments can redistribute the benefits of a prosperous period over a longer span of time or even help to sustain and extend the prosperity. Of course, not all investments provide an adequate future payoff.

The federal government supports many kinds of investments, some directly and others through grants it provides to state and local governments and other recipients. This chapter explores some options that have been prominent in recent Congressional discussions about possible investments in physical capital (tangible structures and equipment, such as roads, water pipes, and government buildings) and information (such as statistical data and scientific knowledge).[1] The options included are not endorsed by the Congressional Budget Office (CBO) or intended as a complete catalogue of the worthwhile possibilities; other options, in the same areas and others, could also illustrate the benefits and costs of federal investments.

The benefits take the form of increased efficiency and equity. Gains in efficiency boost the total national value of goods and services, including items like clean air and leisure time, which are valuable even though they are not marketed; equity is said to increase when those goods and services are distributed in a way that is judged to be fairer and more just. Some federal investments seek to reduce the costs of government operations or improve government "products" that benefit people indirectly (such as military preparedness, the census, and the administration of justice). Others focus on providing more direct benefits to parties outside the government—for example, the construction of roads or funding of research and training of graduate students. Some of those latter investments are efficiency-oriented, including efforts to increase economic growth, while others directed at certain parts of the country or particular classes of individuals, firms, or communities are equity-oriented.[2]

In principle, federal investments can improve economic efficiency by correcting for specific factors that keep the private sector and state and local governments from providing the optimal levels of certain goods and services. For example, federal funding for some types of basic research whose results are unlikely to be protected by patent may fill a gap because private firms, with no incentive to create benefits for other firms, could invest too little in such research. Similarly, federal funding can sometimes avoid the coordination problems that state governments would face in developing national systems such as the air traffic control system.

1. Other important types of investments, such as education, are discussed in Chapter 2.

2. For a detailed discussion of the potential impacts on economic growth of federal investments in infrastructure, education, and research and development, see Congressional Budget Office, *The Economic Effects of Federal Spending on Infrastructure and Other Investments*, CBO Paper (June 1998).

Federal spending has its own weaknesses and limitations, however. It can distort financial incentives, leading recipients and beneficiaries to make choices that do not reflect the full social costs. For example, a municipality using federal grant money to pay the major share of the costs of a sewage treatment plant might build one that is too expensive. Federal funding can also lead to "fiscal substitution" —that is, the displacement of investments that state or local governments or private parties would have made on their own. In addition, spending that is based on equity concerns or political considerations can reduce efficiency when the gains to the beneficiaries are not commensurate with the resources invested. Congressional earmarks in spending for infrastructure and research are often criticized on those grounds.

Though careful analysis is critical in identifying which federal investments are likely to yield more benefits than costs, measuring those costs and benefits is often difficult.[3] Costs are appropriately measured as opportunity costs—the gains forgone by not putting the invested funds to their best alternative use. When the feasible alternatives include reducing the federal debt or cutting distortionary taxes, the opportunity cost of a particular federal investment may be greater than its dollar cost, depending on how the revenues are collected and spent.[4]

One difficulty encountered in measuring benefits is the valuation of government products that do not trade in the marketplace. In some cases, dollar values can be estimated or inferred from related goods and services; for example, analysts refer to average hourly wages in valuing time lost to roadway congestion. In other cases, no reasonable monetization of the benefits is possible, so analysts must settle for estimating a proposed investment's cost-effectiveness, which can then be compared against some desired minimum. A second difficulty, for investments that seek to directly benefit nonfederal parties, lies in estimating the responses of the intended beneficiaries. For example, the value of federal grants to help a metropolitan area provide real-time traffic reports on the Internet would depend not only on the system's technical performance but also on the number of people who chose to access the information and adjust their trips to avoid reported congestion.

The sections that follow discuss potential investments in:

- Passenger transportation,
- Drinking water and wastewater systems,
- Nondefense research and development (R&D),
- The maintenance of physical assets owned by the federal government,
- Federal systems for financial management, and
- Data collection.

The sections reflect the wide differences in the scope of the potential investments: investments affecting agencies across the entire federal government, such as investments in asset maintenance and financial management, are necessarily discussed in overviews and some brief case studies; conversely, the narrower category of investments in water infrastructure is explored in more detail. Common to all six sections, however, are discussions of the policy considerations and the arguments for and against additional federal spending.

The six areas differ in the amount of additional federal spending they could absorb. On the basis of current spending levels and some available cost estimates, one can say roughly that passenger transportation, water infrastructure, civilian R&D, and the maintenance of federal assets could each absorb additional billions of dollars annually—in some cases, perhaps tens of billions—whereas additional spending on data collection and federal financial management systems could be in the hundreds of millions. The sections include relevant information, as available, on the order of magnitude of potential spending but do not provide detailed cost estimates of specific proposals.

3. See *Report of the President's Commission to Study Capital Budgeting* (February 1999). The report emphasizes the importance of information, analysis, and planning in federal decisions about capital spending.

4. Variability of the opportunity costs of tax revenues is discussed in Charles L. Ballard and Don Fullerton, "Distortionary Taxes and the Provision of Public Goods," *Journal of Economic Perspectives*, vol. 6, no. 3 (Summer 1992), pp. 117-131.

Passenger Transportation

Increased stress on the nation's transportation infrastructure—highways, mass transit, airports, air traffic control, intercity rail, waterways, locks and dams, and ports and harbors—has made the level of federal support an issue of continuing Congressional interest. That stress comes in large part from growth in population and economic activity. More commuters are crowding the roads, causing congestion and costly delays. Growing air travel for both business and pleasure in the postderegulation era has challenged the capacity of the air traffic control system to handle flights safely without undue delays and has created bottlenecks at some airports. Despite greater use of telecommunications, more freight is being transported—more raw materials and equipment and tools to factories and more products (including every tangible product sold over the Internet) to users and consumers. International trade, too, is on the rise, increasing demands on ports and harbors.

The federal government has played a large role in financing transportation infrastructure. Federal spending on highways, mass transit, aviation (air traffic control and airports), and rail totaled about $41 billion in 2000 and will markedly increase over the next several years for each of those modes except rail. The Transportation Equity Act for the 21st Century, passed in 1998, authorized increases in highway and transit spending of about 50 percent for the period 1998 to 2003, to about $30 billion a year for highways and $7 billion a year for transit. The Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, passed in 2000, authorized federal spending on aviation to rise roughly 40 percent over the period of 2001 to 2003, to about $13 billion a year. In contrast, federal subsidies for Amtrak have been gradually declining, except for a one-time infusion of $2.2 billion provided under the Taxpayer Relief Act of 1997, and the Amtrak Reform and Accountability Act of 1997 calls for Amtrak to be self-supporting for its operating costs by the end of 2002.

Federal aid for highways, transit, and airports is generally provided in the form of grants to state and local governments and governmental units such as port authorities and metropolitan transit authorities. The federal government imposes numerous and complex rules governing the use of grants, which can specify what types of projects are eligible, impose financial reporting standards, require that state and local entities provide matching funds, and withhold federal funds in certain cases—for example, if states do not enforce laws on drinking and driving. Thus, although the federal government does not make direct decisions about investments in highways, transit, and airports—except for projects earmarked in legislation—it does shape such decisions indirectly through grants and their conditions.

In contrast, the federal government owns and operates the air traffic control system, and so it makes the spending and investment decisions directly. In the case of Amtrak, the federal government provides direct subsidies, with certain restrictions on the use of the funds.

Could further increases in federal funding of transportation infrastructure yield benefits that exceed the costs? This section does not provide the detailed analyses necessary to answer that question, but it does discuss areas of the nation's passenger transportation system where some observers see unmet needs and suggest greater investment. To meet one such need, improving intercity travel, the federal government could increase spending to modernize the air traffic control system more rapidly, expand the capacity of airports, and upgrade and expand the intercity passenger rail system. To improve travel at the metropolitan level, the federal government could provide more aid to mass transit and incentives for state and local governments to improve transportation for poor and elderly people as well as commuters. The federal government could also encourage more cost-effective use of transportation infrastructure by fostering congestion pricing (tolls that vary according to the traffic), which can strengthen motorists' incentives to avoid crowded roads, and other technological initiatives that increase the capacity of roads. Finally, it could take steps to ensure that state and local governments properly maintain their infrastructure so that it lasts longer and provides greater levels of service.

Although the focus here is on possible options for increasing federal spending, a lack of money is

not always the constraint keeping the transportation system from better serving the public. Sometimes technical or managerial problems have hindered agencies' efforts, such as the program of the Federal Aviation Administration (FAA) to modernize the air traffic control system. In other cases, environmental issues have loomed large. Investments in new roads must overcome concerns about the effects on wetlands, air and water pollution, the loss of habitat for endangered species, noise, and what critics contend is the ugliness of suburban sprawl. Many projects at airports encounter those objections plus even stronger ones about noise. Similarly, the construction of dams and the dredging of shipping channels and harbors present problems of what to do with the dredged materials and how to mitigate the effects on fish.

Moreover, increasing federal funding would not necessarily result in a net increase in spending for transportation infrastructure; it might instead result in cutbacks of an equal amount by state and local governments. That is, state and local governments might simply substitute federal funding for their own. The federal aid programs for highways and airports attempt to address the problem by requiring matching funds, but whether such requirements succeed in discouraging fiscal substitution is unclear. Increased federal funding might also preempt private investments in transportation systems.[5]

Improving Intercity Passenger Travel

Following deregulation of the airline industry in 1978, air travel burgeoned. The nation's aviation infrastructure has had difficulty keeping pace with the steep increases in the numbers of passengers and flights, so additional investments in the air traffic control system and in airport facilities could help. Investments in Amtrak could also help intercity travel by diverting some passengers from airplanes to rail. Of course, more money could also be spent on highways, but that option is not included in this discussion because any need for more rural interstate highways—the roads primarily used by intercity travelers —appears to be outweighed by the highway needs in urban areas, where congestion is a major problem.

5. Gabriel Roth, "Road Financing in the U.S.," *Transportation Quarterly*, vol. 50, no. 4 (1996), pp. 107-114.

Improving Air Travel: Increasing Funding in Order to Modernize the Air Traffic Control System More Rapidly. A perennial problem for air travelers is delays; in 1998, roughly 306,000 flights were delayed 15 minutes or more, an increase of almost 25 percent from 1997.[6] One major source of delays is the limited capacity of the nation's air traffic control system. As the number of flights has skyrocketed, the system has not kept pace.

The airline industry has long pressed for improvements that would enhance the capacity of both the air traffic control system and airports. In March 2000, the Congress passed legislation that authorizes nearly $3 billion a year over the next three years for the air traffic control system's facilities and equipment. Could additional spending by the federal government, which owns and operates the system, reduce delays while maintaining or improving the safety of air travel? Possibly, but the FAA's experiences over the past two decades lend credence to an argument to defer increases until after significant managerial reforms have occurred.

In 1981, the FAA announced plans to modernize the air traffic control system by the end of that decade. No doubt that presented a difficult challenge, as the FAA has described: to install equipment that uses advanced technologies in an environment that must work essentially 24 hours a day every day of the year (the FAA's specifications allow for five minutes of downtime a year) with complete accuracy and reliability and no room for human error in using the equipment.

But nearly two decades and some $25 billion later, the FAA's effort is still far from completion.[7] Like the flights it is intended to speed, the modernization project has been plagued with delays—along with cost overruns. In some cases, the FAA proceeded so slowly that by the time it had determined

6. Federal Aviation Administration, Office of System Capacity, *1999 Aviation Capacity Enhancement Plan* (December 1999), p. v, available at www.faa.gov/ats/asc/pub/capacity_office_pubs/99_ace/chapters.pdf.

7. The original 1981 estimate of the cost of modernizing the system was $12 billion; however, that figure cannot readily be compared with actual spending to date, nor with the latest $42 billion estimate for the ultimate total cost, because the scope of the project has been expanded.

the specifications of new equipment and was ready to procure it, the technologies it specified were no longer current. Such problems have been recounted in a series of reports by the General Accounting Office (GAO).[8] Although the FAA has had some recent success with components of its modernization program—such as a radar system used for the separation of aircraft, drug interdiction, and the defense of U.S. borders and a system that automates the collection and dissemination of selected weather data—other projects are behind schedule and over budget.[9]

One approach to finding productive uses of additional money is to focus on potential safety problems. Judging by official reports, one such problem is an increasing number of runway incursions, in which an aircraft or other vehicle inadvertently encroaches on an active runway where aircraft have clearance to land or take off. The FAA has been trying to reduce the risk with a program called the Airport Movement Area Safety System—but that program too has encountered problems and has been delayed. Again, whether more funding would resolve the problems effectively is unclear.

Another approach to spending additional money productively might involve having the FAA adopt a strategy of buying more off-the-shelf equipment and planning on continual upgrades as they become available. A question about such upgrading, however, would be its ability to meet the agency's strict requirement of reliability with virtually no downtime.

Improving Air Travel: Expanding the Capacity of Airports. Large increases in the number of airline passengers have strained many airports, which must provide enough gates to handle the additional flights, enough facilities and amenities to ease the inconvenience of flight delays, adequate and accessible ticket counters, efficient and accurate baggage-handling systems, sufficient parking facilities, and enough roads and rail lines to provide access. In addition, security equipment and procedures for screening passengers and baggage have been added to airports that were not originally designed with those concerns in mind, thus complicating travelers' journeys through airports and adding to airports' investment needs.

Legislation passed in March 2000 nearly doubled federal funding for airports, to more than $3 billion a year over the next three years. But airports could always use more money. Major airports continue to embark on expansion programs to meet growing demands, and smaller airports sometimes strain to install equipment that would improve safety and security. In keeping with the federal interest in public safety and national security, additional federal funding could help in expediting the installation of modern security equipment and reconfiguring the layout of facilities to ease movement through airports while maintaining a high level of security.

Large commercial airports are generally able to finance additional investments from their own sources of funds. In addition to federal aid, they receive revenues from landing fees, terminal-area rentals, parking fees, and other charges imposed on users; those revenues can be used in turn to back bond issues, which give airports access to private capital to meet their needs. Yet large airports receive about 40 percent of all federal aid for airports.[10] Whether additional federal aid for large airports would increase the total amount of investment or whether it would merely substitute for funding from airports' own sources is unclear.

In that light, one policy option for the federal government would be to direct any additional aid to the smaller commercial airports, which have fewer users from which to derive fee revenues and less access to private financing. Smaller airports could use increased federal aid for projects and equipment to enhance safety, such as better navigational aids, improved runway and taxiway lighting, and so forth. Such investments, and others used to install security screening equipment, could help bring smaller com-

8. See, for example, *National Airspace System: Persistent Problems in FAA's New Navigation System Highlight Need for Periodic Reevaluation*, GAO/RCED/AIMD-00-130 (June 2000); *Air Traffic Control: Status of FAA's Modernization Program*, GAO/RCED-99-25 (December 1998); *Air Traffic Control: Improved Cost Information Needed to Make Billion Dollar Modernization Investment Decisions*, GAO/AIMD-97-20 (January 1997); and *Aviation Acquisition: A Comprehensive Strategy Is Needed for Cultural Change at FAA*, GAO/RCED-96-159 (August 1996).

9. General Accounting Office, *Air Traffic Control: Status of FAA's Modernization Program*, pp. 2-3.

10. "Large airports" here refers to the 70 or so airports that the FAA categorizes as large- and medium-hub airports, which serve nearly 90 percent of the airline passengers in the United States.

mercial airports up to the same standards as large ones, which could induce more passengers to fly into and out of smaller airports. That redistribution of passengers could expand the capacity of the entire system by relieving congestion at large airports and attracting more airline service to small communities.

Critics of federal aid to airports contend that air travel is a service that provides primarily private benefits and that any public spillover benefits from airports are primarily local and regional in nature and at best could justify public support only from local or regional governments. In addition, citing the fact that large airports can fund all or most of their needs from private sources, critics argue that smaller airports' need for public assistance indicates that they do not pass the market test of covering costs with revenues from users and other beneficiaries. Thus, opponents of federal support to smaller airports view such subsidies primarily as transfers that are intended to promote local economic development.[11]

Improving Passenger Rail. In addition to providing funds to expand the capacity of the aviation system, the federal government could help improve intercity passenger travel by investing more heavily in rail service. Increased rail service could alleviate congestion on highways as well as in the air. But increasing funding for rail would mark a change from current federal policy, which calls for Amtrak to cover its operating costs out of its own revenues by the end of 2002.

The amounts of federal funding provided for passenger rail service pale beside those for highways and aviation. The federal government has provided about $25 billion for Amtrak since it was created in 1971; the Congress appropriated $521 million for it in 2001. In comparison, federal highway funding is now running at about $30 billion a year and is authorized at about $170 billion over the period of 1998 to 2003; for aviation, $40 billion over 2001 to 2003 is authorized. However, federal spending on Amtrak comes out of the general fund, whereas most funding for highways and airports (along with some funding for air traffic control) is financed through user taxes.

In creating Amtrak, the federal government took over the passenger operations of private railroads, most of which were experiencing severe financial difficulties in the late 1960s. Passenger operations were especially unprofitable as they faced growing competition from airlines and from automobile travel on the newly built Interstate Highway System. The premise behind the federal takeover was for federal subsidies to redress the problem of deferred maintenance and to upgrade track and modernize railcars and thereby restore the profitability of passenger rail service. Thus, the National Railroad Passenger Corporation (Amtrak's official name) was to become profitable after a few years and no longer need federal subsidies.

That profitability has not been achieved. Amtrak still loses money on almost all of its routes; the exception, according to Amtrak, is that Metroliner service between Washington, D.C., and New York City covers its operating costs with passenger revenues (and other Northeast Corridor service in general reportedly almost reaches that threshold). The original plans for Amtrak were demonstrably overambitious; in light of the subsidies other countries give their passenger rail operations, it may be unrealistic to expect a nationwide rail system to be profitable. In any event, the revised target set by the Congress in 1997 is for Amtrak to cover its operating costs by the end of 2002, implicitly acknowledging that the federal government may continue to be called upon for capital assistance.

Proposals for supporting passenger rail service raise two central questions: first, whether the federal government should subsidize at all a service that in principle could be run as a private enterprise; and second, as in the case of airports, whether any subsidies should favor the "needier" parts of the system, such as the routes that serve relatively few riders, or the parts that are closer to self-supporting. Clearly, in the Northeast Corridor, Amtrak is providing service that passengers value, as shown by their willingness to pay. A key to the attractiveness of that service is that the alternatives—highway and air travel—are congested and subject to delays. Moreover, the areas along the corridor are populous, providing a large number of prospective passengers, and several intermediate cities between Boston, New York, and Washington help create a demand for trips that are

11. For a broader discussion of federal financing of small airports, see Congressional Budget Office, *Financing Small Commercial-Service Airports: Federal Policies and Options*, CBO Paper (April 1999).

not long enough to be practical by airplane. Federal assistance focused on the Northeast Corridor would reinforce significant new investments Amtrak has made there in recent years to upgrade track and complete electrification of the line for its new high-speed Acela trains. The Acela trains, which can travel at up to 150 miles per hour, are expected to cut about an hour from travel times between Boston and New York and save about 15 minutes between New York and Washington.

Other corridors have some of the same characteristics, although none has quite the confluence of factors that makes passenger service as viable as it is in the Northeast Corridor. In the Midwest, for example, the line that connects Chicago, Milwaukee, Madison, and Minneapolis/St. Paul serves cities with airports where travelers can face significant delays due to congestion and bad weather, but it has lower population densities and hence fewer potential passengers at intermediate points between the major cities.

In addition to looking at current and potential demand for rail service along specific corridors, the federal government might also take into account the willingness of state and local governments to match federal subsidies, which would provide an indication of how much local taxpayers value rail service. Even people who never ride trains may benefit from them because of reduced congestion on highways and at airports.

Alleviating Urban Traffic Congestion

The transportation problem that affects most urban travelers in their daily lives is traffic congestion. The Texas Transportation Institute estimated that "congestion cost travelers in 68 urban areas 4.3 billion hours of delay, 6.6 billion gallons of wasted fuel consumed, and $72 billion of time and fuel cost in 1997."[12] Despite the size of the problem, urban congestion is inherently local or regional, not national, and so the justification for federal involvement can be questioned. But the federal government's support of urban highways and mass transit gives it influence in those areas because it can direct how federal aid may be used.

How to use that influence to address congestion problems is a contentious issue. Although additional highway construction can help in some cases, opportunities to build or widen roads are increasingly limited by a combination of a scarcity of land, neighborhood opposition, and concerns over adverse environmental impacts. Even where construction is feasible, some argue that it would be ineffective because it would promote additional traffic that would soon restore the original levels of congestion. Accordingly, at the same time that the Congress has provided substantial increases in funding for highways, interest has mounted for other approaches, such as reducing automobile traffic through the use of mass transit, telecommuting, congestion pricing, and other forms of demand management and increasing the capacity of existing roadways through the use of computer and communications technology.

Promoting Mass Transit. The federal government currently provides about $7 billion a year in aid for mass transit. Targeting additional aid efficiently could be difficult. Except along corridors with high population densities—which often developed along streetcar lines before the advent of the automobile—buses are generally far more cost-effective, but rail systems attract much more popular support.

For cities that have rail transit systems, probably the greatest return for the dollar is in keeping those systems in good repair. In some cities, subway systems have suffered from deferring the maintenance of cars, track, and escalators and elevators at stations. In general, federal aid has not been available for operation and maintenance (O&M) costs, although major overhauls of equipment are eligible for such aid. One policy option, discussed below, which could be applied to transportation infrastructure in general or rail systems in particular, would be to allow federal aid to be used for O&M.

For areas that do not have the densely populated corridors needed to support rail transit, a more relevant question is how to make bus service more attractive. One way might be to address the common complaint that potential bus passengers are not sure of the

12. David Schrank and Tim Lomax, *The 1999 Annual Mobility Report: Information for Urban America* (College Station, Tex.: Texas Transportation Institute, Texas A&M University System, November 1999), p. xvii, available at http://mobility.tamu.edu.

routes, schedules, or fares. Some options for making this information more readily available might involve the use of modern communications systems. For example, providing route and schedule information over the Internet in a user-friendly form could allow riders and potential riders to customize the material for their specific needs—and have the side benefit of lowering transit agencies' costs for publishing printed schedules. Improved technology could also let passengers know the location of the bus they are waiting for and its expected time of arrival at their stop.

Another complaint is that buses are slow, often stopping every few blocks to take on and let off passengers and getting stuck in traffic. One solution is to have dedicated lanes for buses on major roads—a practice that has enjoyed some success in attracting commuters. Another is to equip buses with transponders that cause traffic lights to turn green for them. Finally, charging motorists for using roads during peak periods—that is, congestion, or value, pricing (discussed in more detail below)—may make bus service more attractive compared with driving.

In sum, additional federal aid for mass transit would probably be more effective if spent on bus service—including expanding routes, increasing frequencies, buying new equipment—and on maintaining existing rail systems than if spent on new rail lines.

Curbing Automobile Traffic. If public policies cannot get people out of their cars and into buses or trains, perhaps they can reduce traffic or congestion in other ways.

Carpooling is one possibility. Some federal money has gone to communities to promote carpools and facilitate their formation—for example, through the use of computer programs that match people by location, work schedule, preferences about music and smoking, and other factors. Some people who have unpredictable schedules, not easily accommodated by traditional carpools, may also be able to share rides through "instant" carpools. In northern Virginia, instant carpools have become common through the use of "slug lines," in which ride-seeking commuters—the slugs—wait at commuter parking lots for drivers—body snatchers—who need riders in order to use HOV (high-occupancy-vehicle) lanes. The slug lines probably reduce the number of cars on the road—although they also probably reduce the demand for bus service. Whereas the lines are a low-tech approach to instant carpooling, high-tech communications—such as instant messaging on wireless equipment—might also facilitate it.

Another solution that uses modern technology is congestion pricing. Reflecting the basic economic principle that prices are fundamental to clearing markets, congestion pricing implements the idea that a shortage of roadway capacity indicates a need for a higher price. Until fairly recently, the lack of a practical way to charge people without creating further congestion was a major barrier to congestion pricing, but the introduction of electronic toll collection has now lowered that barrier. The first examples of congestion pricing are found on two new roadways in southern California and one in Texas, which reserve lanes for high-occupancy vehicles and for vehicles with single occupants who are willing to pay a toll. The tolls on those so-called HOT (high-occupancy toll) lanes are set at levels that control the demand and keep traffic flowing freely; they reflect the amount of congestion in the unrestricted lanes and vary by time of day. In 1998, the Congress authorized \$51 million through 2003 for pilot projects in congestion pricing.

Making Highways and Vehicles Smarter. A number of computer and communications technologies have a successful track record or offer an encouraging prospect for helping to alleviate congestion. Sensors that detect traffic volumes have proven effective in smoothing the flow of traffic, by modulating the length of stoplights on city streets or adjusting the entry rate of vehicles onto limited-access highways. And equipment being introduced that alerts drivers if their cars are too close to ones in front or if they start to change lanes into paths of other vehicles can prevent accidents that tie up traffic. Advanced technologies such as those are the focus of the federal Intelligent Transportation Systems (ITS) program, for which the Congress has provided about \$1.3 billion over the six-year period of 1998 to 2003.

Improving the Mobility of Urban Residents Without Cars

Less visible than the general problem of urban traffic congestion but also fundamental to improving the quality of people's lives are the mobility problems of people who cannot drive or cannot afford to buy a car. State and local governments can address the issue; indeed, they are better positioned than the federal government to take account of local geography and preferences, and many already focus some efforts on the needs of the poor, the elderly, and the disabled—using both local funds and federal grant money.[13]

But the Congress could decide to provide additional federal funding to reduce the financial burden on areas with high proportions of transit-dependent residents or to support other national goals. For example, funding to meet the mobility needs of the poor could contribute to the national goal of getting people off the welfare rolls and into the workplace by making it easier for them to get to their jobs. New jobs are frequently created in the suburbs, especially in office parks, far away from the inner cities where many welfare recipients live. Mass transit systems often do not serve the needs of such "reverse" commuters. In particular, most rail transit systems were designed to transport commuters from suburbs to employment centers in cities, not to suburban office clusters or industrial parks. Some companies located in the suburbs now offer van service to shuttle employees between the nearest rail station and the office, but others have not found it in their interest to provide such service. Whether a local transit system could provide the service efficiently would depend principally on how many passengers would use it and what they would be willing to pay.

Reverse commutes often involve one, two, or even three transfers, lengthening a trip that would have taken 20 or 30 minutes by car to more than two hours. That extra time away from home—for which child care arrangements may be needed—can be a significant barrier for people trying to break into the labor force and support themselves and their families. And in some cases, public transit systems do not operate late enough at night or early enough in the morning to serve people whose shifts at such entry-level jobs as cleaning offices or working in hotel kitchens extend outside traditional commuting hours.

In addition to the commuting needs of people who do not own cars are the mobility needs of people who do not drive because of age or disability. The number of elderly people who have stopped driving because they can no longer see as well or react as quickly as they once did is growing. More might prefer to stop driving if doing so did not have such a profound effect on their ability to live independently.

Of course, one option to help meet the needs of those who depend on mass transit is to provide more federal aid to local agencies so that they can expand their rail and bus systems. But simply increasing traditional service offerings may not be cost-effective—again, because current routes do not necessarily serve the specific needs of the transit-dependent population. The low densities in the suburbs make it costly to provide transit service not only for reverse commuters but also for the elderly who live there.[14]

A second set of options would support transit services that are more targeted to specific needs and conditions. For example, the federal government could assist suburban communities in operating transit systems using buses that are smaller and less expensive than typical urban buses and drivers who are hired for more limited hours (for just the morning and evening peaks, for instance). Although such service still typically needs subsidies, the subsidies may be lower than those to a larger system, and the service provided could be more tailored to the needs of the local community. The federal government could also support van service from low-income urban areas to jobs in the suburbs—service that could be provided either by privately owned shared-ride vans like those used by some commuter vanpools or by exist-

13. Under the Temporary Assistance for Needy Families program, federal block grants can be used to provide transportation services to welfare recipients and other people with low income. Also, the Transportation Equity Act for the 21st Century authorizes grants to transit agencies and other qualified groups to help welfare recipients commute to work.

14. A transit agency that has few passengers on a bus route—perhaps too few to cover even the operation and maintenance costs, let alone the capital costs and other fixed costs—may reduce the number of buses, and therefore the frequency of service, leaving the service less attractive to potential riders and contributing to a downward spiral in ridership.

ing transit agencies. Even if operated with sufficient frequency throughout the day and night, van service might prove more cost-effective than expanding bus service that requires multiple transfers.

A third area to explore is the use of computer and communications technologies. The federal government's ITS program includes a number of applications to public transit. By letting transit managers track the locations of vehicles and communicate with drivers, using computers to map out the most efficient routes to pick up and deliver passengers, and keeping passengers informed about the expected time of arrival of their vehicles, ITS applications could produce on-call, door-to-door service. Such service would be costly, though—perhaps more costly than what passengers are willing and able to pay in fares plus what taxpayers at the federal, state, and local levels are willing to pay in subsidies.

A fourth approach would be to give targeted financial assistance to low-income urban residents without cars. For example, the federal government could provide grants or loans directly to people leaving the welfare rolls who want to buy cars or vans for the purpose of transporting themselves or their neighbors to jobs. Low-income elderly people who cannot drive could be given vouchers for reduced fares on taxis. With some modifications (to use other specialized services in areas not well served by taxis, for example), such assistance could be provided in rural areas as well.

In sum, the mobility needs of those without cars are not the standard suburb-to-downtown commuter trip nor the crosstown trip. The most cost-effective responses may be to target federal assistance at projects and programs with high benefit-cost ratios but allow a wide range of different uses in accord with local needs and opportunities.

Investing in Maintenance

Federal support for transportation infrastructure has traditionally focused on new construction and capital equipment, but an option for increased spending would be to authorize more funding for necessary maintenance. Historically, the opening of new facilities—roads, canals, mass transit lines, airports—has generated more public attention than their maintenance. Elected officials have received credit for bringing new projects to their districts, culminating in elaborate ribbon-cutting ceremonies. Spending money to maintain those systems is not so glamorous; it is just part of the day-to-day activities of state and local governments. Yet that spending is valuable in preserving capital investments over their useful lives. Moreover, it staves off reconstruction projects that can be so costly and inconvenient to travelers. For example, small potholes that are not repaired can worsen and ultimately damage cars. Further neglect can lead to erosion of a road's or bridge's substructure, weakening it and hastening the end of its useful life. At that point, major reconstruction is needed, involving higher costs; closed lanes; and, often, massive traffic jams.

Federal grants for highways, transit, Amtrak, and airports have been largely restricted to capital spending, although in some cases they have covered major maintenance expenses as well. There are several reasons for such restrictions. Besides the greater political appeal of capital investments, their tangibility makes it easier for the federal government to monitor what grants are being used to buy. Further, the federal government has shied away from offering operating assistance that could diminish the incentives of state and local governments to control such costs.

Restricting federal grants to capital investments has disadvantages, however. It precludes federal money from being spent on some maintenance activities that may yield a higher return at the margin than money spent on a new facility.[15] It also makes capital investments appear less expensive than O&M to state and local governments, which pay only about 20 percent of the cost of capital projects (under many federal programs) but 100 percent of the cost of O&M. Those distorted relative prices may lead local governments to favor overly large and expensive systems, to conduct too little O&M, and even to let capital investments deteriorate until they need the massive reconstruction that would qualify for a capital grant.

15. Again, in some cases, federal legislation does include heavy overhaul and maintenance within the definition of construction.

Viewed from the standpoint of improving efficiency, the issue is how to provide state and local governments with incentives to conduct the appropriate amount of O&M. If current policy leads to too little spending on O&M but equal treatment of capital and O&M for cost-sharing purposes would encourage wasteful spending, then one solution could be for the federal government to share some lower percentage of O&M costs. Some experimentation might help to identify the efficient federal share and to develop acceptable methods of oversight.

Drinking Water and Wastewater Infrastructure

Many observers believe that spending on the nation's drinking water and wastewater systems has been inadequate for some time. Indeed, a consortium of municipal agencies and industry associations estimates that the nation needs to double the current annual capital investment of $23 billion to adequately maintain, replace, and modernize the systems.

But views vary widely on the appropriate federal role, if any, in paying for water infrastructure. Currently, large urban systems finance the vast majority of their capital spending from local sources—primarily charges paid by residential and commercial ratepayers—but rural systems rely heavily on federal and state assistance. Proponents of increased federal support argue that federal laws and regulations are driving a large share of the current and projected investment needs and that leaving the funding burden with local water systems would require water rates that were unaffordable for many rural and low-income households. Opponents argue that future needs could be significantly reduced if water systems were pushed to operate more efficiently and that any public support would more appropriately come from state or local governments.

The History of Federal Involvement with Local Water Systems

Except as a builder of dams and other major public works used to supply water, the federal government played a relatively minor role in funding or regulating local water systems before 1972. The Public Health Service had published drinking water standards as early as 1914 and updated them in 1925, 1946, and 1962, but those standards were federally enforced only for water supplies used on interstate railroad trains. As for wastewater, matching grants for 30 percent to 50 percent of the cost of constructing publicly owned treatment works became available in 1956, but initially the amount of funding was limited, and no federal requirements existed for such facilities.

With the passage of the Federal Water Pollution Control Act Amendments of 1972, later designated the Clean Water Act, the Congress adopted the goal of restoring and maintaining the quality of the nation's waters, thereby protecting their usefulness for fishing and swimming. Toward that goal, the act required that municipal wastewater discharged to surface waters be treated using "secondary" (biological) methods to reduce the levels of key pollutants by 85 percent; increased the federal matching share for constructing public wastewater facilities to 75 percent; and greatly expanded the available funding.[16] Consequently, federal outlays for wastewater treatment grants rose 10-fold in real terms during the 1970s, reaching a high of $8.4 billion (in 1997 dollars) in 1980.[17] In total, the Congress appropriated $73 billion (in nominal dollars) from 1973 through 2001.

The Congress's stated original intent was to provide a temporary period of expanded funding for constructing secondary treatment facilities—and, indeed, funding has declined sharply since its inflation-adjusted peak in 1980. Amendments in 1981 cut the authorization for wastewater grants in half and reduced the federal matching share to 55 percent for facilities built after 1984. Then in 1987, legislation was enacted to phase out the construction grant program by 1991 and replace it with grants to capitalize state revolving funds, with the states matching 20

16. Secondary treatment involves the consumption of pollutants by bacteria and other organisms; typically, air is supplied to the wastewater to stimulate the organisms' activity. Primary treatment methods using gravity and mechanical methods (such as screens and skimming devices) generally remove 45 percent to 50 percent of pollutants.

17. Congressional Budget Office, *Trends in Public Infrastructure Spending*, CBO Paper (May 1999), pp. 102-104.

percent of each federal dollar. The revolving funds provide several types of financial support to wastewater facilities—including loans at or below market interest rates, guarantees for new local bond issues, and purchases of existing bonds—but do not make grants. The 1987 law envisioned that loan repayments would allow the state funds to operate without ongoing federal support and therefore authorized federal contributions only through 1994; nevertheless, the Congress has continued to appropriate funds each year since then, including $1.35 billion for 2001. Meanwhile, the goal of providing secondary treatment of all wastewater has been nearly reached: according to the Environmental Protection Agency's (EPA's) data, as of 1996 only 176 of the 14,000 public treatment facilities discharging effluent streams to surface waters were providing less than secondary treatment—and some of those are exempt from the requirement because they in fact discharge to sufficiently deep ocean waters or to other facilities that in turn provide secondary treatment.

The first major federal legislation on drinking water came in 1974, with the passage of the Safe Drinking Water Act. Support for the act reflected concerns that the Public Health Service's drinking water standards were based on inadequate and obsolete data, that state and local officials were not adequately monitoring water systems, and that pollutants found in drinking water were carcinogenic. The law required EPA to set standards, called "maximum contaminant levels," by reference to ideal "maximum contaminant level goals"—levels at which no adverse health effects are known or anticipated. Specifically, the law directed EPA to set the standards as close to the goals as possible without making them unaffordable for large water systems with relatively clean sources of water. In 1986, the Congress amended the law to require EPA to develop standards for 83 specific contaminants and for additional sets of 25 contaminants every three years.

Neither the original act nor the 1986 amendments authorized federal funding, but as the number of standards and the costs of meeting them grew, so did support for providing financial assistance to water systems. Thus, one of the key provisions of the act's 1996 amendments created a program of state revolving funds for drinking water and authorized $9.6 billion through fiscal year 2003 in capitalization grants to be matched by an additional 20 percent from recipient states, as in the case of the wastewater funds.[18] (Appropriations through fiscal year 2001 for the drinking water funds have totaled $4.4 billion.) Other major provisions revoked the requirement that EPA regulate an additional 25 contaminants every three years, authorized the agency to adopt less stringent contaminant standards if necessary to keep costs from exceeding benefits, and required it to identify "variance technologies" for use by small systems judged unable to afford to comply with the relevant standards. As discussed below, small drinking water and wastewater systems tend to face significantly higher costs per household.

Federal programs besides EPA's also provide financial support for investments in water infrastructure. The Rural Utilities Service of the U.S. Department of Agriculture (USDA) provides a mix of loans and grants for water and waste-disposal projects in communities with fewer than 10,000 people; the program received $744 million in 2001, including $100 million from a supplemental appropriation. Drinking water and wastewater projects may also receive funding through the Public Works and Development Facilities Program (administered by the Economic Development Administration in the Commerce Department) or the Community Development Block Grant program (administered by the Department of Housing and Urban Development) if they meet the relevant criteria. The former program focuses on job creation and the latter on community development that benefits low- and moderate-income people. Still other programs focus on assistance to specific groups or locations, such as Indian tribes, native Alaskan villages, Appalachia, and unincorporated settlements on the U.S.-Mexican border.

Investment Needs

Dramatic incidents in recent years have highlighted problems associated with inadequate spending on water infrastructure. In 1993, contamination of the

18. Unlike the revolving funds for wastewater facilities, those for drinking water systems allow states to provide grantlike assistance: in particular, states may use up to 30 percent of their capitalization grants to forgive principal or to subsidize negative interest rates on loans for systems serving disadvantaged communities, as defined by state criteria.

Milwaukee water supply by cryptosporidium caused 400,000 cases of gastrointestinal illness and an estimated 50 to 100 deaths. That same year, two people in Atlanta were killed by falling into a sinkhole created by the collapse of a storm sewer. Problems with water systems led to two sinkholes at least 30 feet deep in Baltimore in 1997 and to one in Manhattan that did millions of dollars of damage in 1998.

Less catastrophic failures occur regularly and demonstrate the widespread nature of the problems. According to EPA's data, 880 wastewater facilities receive flows from "combined sewer systems," which commingle storm water with household and industrial wastewater, and frequently overload during heavy rain or snowmelt. EPA estimates that such overflows discharge 1.2 trillion gallons of storm water and untreated sewage per year. Even "sanitary sewer systems," which do not commingle storm water with household and industrial wastewater, overflow and leak because of blocked pipes, failed pumps, inadequate maintenance, or excessive demands. According to *U.S. News & World Report*, a draft EPA report estimates that overflows and leaks from those systems result in a million illnesses each year.[19]

In part, these problems are the natural consequence of aging pipes and equipment. Though less visible than treatment facilities, pipes and related distribution equipment actually account for about three-quarters of the value of water systems. According to estimates, drinking water systems have 800,000 miles of pipes, and sewer lines cover more than 500,000 miles.[20] The rule of thumb is that a sewer pipe lasts 50 years (although actual useful lifetimes can be longer, depending on maintenance and local conditions). A 1998 survey of 42 municipal sewer systems by the American Society of Civil Engineers found that existing pipes average 33 years old, suggesting that many are, or soon will be, in need of replacement.[21]

The amount of money required for water systems is uncertain but substantial. The best available estimates from EPA total about $340 billion over 20 years, or an average of $17 billion per year. That total includes $138.4 billion from the agency's first survey of the needs of drinking water systems, conducted in 1994 and 1995; $128.0 billion from its most recent (1996) survey of wastewater systems' needs eligible for federal funding; and a supplemental estimate, based on additional survey and modeling work, of $81.9 billion in needs for preventing overflows from sanitary sewers, representing a net increase of roughly $70 billion over the most comparable figures from the 1996 survey.[22]

A recent report by the Water Infrastructure Network (WIN), a consortium of 21 industry, municipal, and nonprofit associations, estimates that nationwide needs for investment in water infrastructure average $47 billion per year (in constant 1997 dollars) over the period of 2000 to 2019, twice the reported current spending of $23 billion.[23] Of that $47 billion, $37 billion represents actual infrastructure costs, and $10 billion represents interest costs.[24] Interest costs aside, that estimate is more than twice the analogous figure based on EPA's surveys.

19. David Whitman, "The Sickening Sewer Crisis," *U.S. News & World Report*, June 12, 2000, p. 17.

20. American Society of Civil Engineers, "Issue Brief: Drinking Water" (undated); Parsons Engineering Science, Inc., Metcalf and Eddy, and Limno-Tech, Inc., *Sanitary Sewer Overflow (SSO) Needs Report* (prepared for the Environmental Protection Agency, Office of Wastewater Management, May 2000), p. 2-2. The estimate of sewer lines is for systems with separate sanitary sewers; given the same assumptions, systems that combine sanitary wastewater and storm water add roughly 140,000 more miles to the overall total.

21. American Society of Civil Engineers, *Optimization of Collection System Maintenance Frequencies and System Performance* (prepared for the Environmental Protection Agency, November 1998).

22. Environmental Protection Agency, Office of Water, *Drinking Water Infrastructure Needs Survey: First Report to Congress* (January 1997) and *1996 Clean Water Needs Survey: Report to Congress* (September 1997). The total needs estimated in the latter report included an additional $11.5 billion to address "nonpoint" pollution from agriculture and silviculture (forestry) and urban runoff and to protect groundwater, estuaries, and wetlands.

23. Water Infrastructure Network, "Clean & Safe Water for the 21st Century: A Renewed National Commitment to Water and Wastewater Infrastructure" (undated), available from the American Water Works Association (Washington, D.C., www.awwa.org/govtaff/win/finalreport.pdf) and the Water Environment Federation (Alexandria, Va., www.wef.org/PublicInfo/Newsroom/PressReleaseArchives/2000/041200.jhtml).

24. To determine the interest costs, the report assumes that 75 percent of the capital is financed by 20-year bonds at a real interest rate of 3 percent.

Whether total water infrastructure needs (before interest costs) lie closer to $17 billion or $37 billion per year is impossible to say. Both sets of estimates could be too high if they reflect overly pessimistic assumptions about technical progress and the amount of piping that needs to be replaced. However, some features of EPA's $17 billion estimate tend to understate total needs. For example, the wastewater survey excluded routine replacement of sewer pipes, which is not eligible for financing from the state revolving funds, and the drinking water survey excluded costs arising from population growth. Moreover, according to EPA staff, respondents to either survey may have lacked the time or information to document some of their needs, especially those occurring later in the 20-year period. Also, being the first of its kind, the drinking water survey may have suffered from some misunderstandings, as suggested by the fact that at least 24 percent of the responding large utilities reported no needs related to transmission and distribution.[25] According to EPA staff, follow-up visits to some community water systems revealed that their survey responses under reported total needs by an average of 55 percent.[26]

Adding interest costs makes the estimate of $17 billion in annual capital needs derived from EPA's surveys roughly comparable to the current spending level of $23 billion. Even if that estimate proved to be correct, however, many local water systems would be likely to come under increased financial pressure from rising costs for operation and maintenance, in part the result of more complex treatment systems. The report of the Water Infrastructure Network estimates that O&M will average $49 billion per year over the 2000-2019 period, up from $34 billion in 1994, notwithstanding a 25 percent savings from improved efficiency.[27]

25. Stratus Consulting, Inc., *Infrastructure Needs for the Public Water Supply Sector* (prepared for the American Water Works Association, Washington, D.C., December 1998), p. 2-5.

26. Community drinking water systems are defined as those with at least 15 service connections used by year-round residents or otherwise serving at least 25 year-round residents; the systems need not be publicly owned.

27. Water Infrastructure Network, "Clean & Safe Water," pp. 2-4 to 3-2.

The needs faced by individual water systems will depend on many local factors, including the quality of their source water (for drinking water systems) and the average age of their pipes. The size of a system is another important factor: treatment costs in particular are subject to economies of scale. For example, on the basis of EPA's data on the costs of monitoring and treatment to comply with the drinking water standards in force as of September 1994, CBO estimates that the average cost per household was about $4 per year in systems serving more than 500,000 people but $300 per year for systems serving no more than 100 people.[28] Although large systems serve the great majority of customers, most water systems are small.[29] For example, 59 percent of the roughly 54,000 publicly or privately owned community drinking water systems serve 500 people or fewer, and 85 percent reach no more than 3,300 people. The majority of wastewater systems are also small.[30]

As with costs, charges also vary significantly among water systems. EPA's analysis of data collected by the state of Ohio, for example, shows that although the average rate charged by municipalities in the state for a given amount of household water and wastewater use was $570 per year in 1997, the charge exceeded $800 in 18 percent of municipalities and $1,000 in more than 2 percent. Water prices have risen significantly in real terms—the statewide

28. New calculation, based on data in Congressional Budget Office, *The Safe Drinking Water Act: A Case Study of an Unfunded Federal Mandate* (September 1995), pp. 16-17.

29. Just 7 percent of community drinking water systems serve more than 10,000 people, but they supply 80 percent of those served by community systems; and systems with more than 100,000 customers represent 1 percent of systems but 44 percent of all people served. Similarly, wastewater facilities serving more than 10,000 people account for 89 percent of the population that EPA estimates will be served by existing or new public facilities in the year 2016. See Environmental Protection Agency, "EPA Safe Drinking Water Information System Factoids," available at www.epa.gov/safewater/data/99factoids.pdf, and Environmental Protection Agency, *1996 Clean Water Needs Survey*, p. 16.

30. EPA projects that 60 percent of the 30,000 "facilities" needed by 2016 will serve fewer than 3,500 people each (Environmental Protection Agency, *1996 Clean Water Needs Survey*, p. 16). But according to EPA staff, the universe of facilities includes some pipe networks and projects to control pollution from nonpoint sources, as well as wastewater treatment facilities. Privately owned wastewater systems, such as household septic systems, are excluded from statistics on public treatment facilities; otherwise, the percentage share for small systems would be even higher.

average in Ohio had been $440 in 1985, measured in 1997 dollars—and they will continue to rise, in light of the needs for replacing aging pipes and equipment, implementing new regulations, and reducing sewer overflows. The WIN report estimates that without additional public funding, 22 percent of households nationwide will spend more than 4 percent of their income—a threshold that EPA uses as a test of affordability—on water and wastewater by 2009, up from 16 percent of households in 1989 and 18 percent in 1997.

The government agencies and private companies that own water systems also differ in their reliance on public assistance. Nationwide, user charges provide the vast majority of money going to water utilities and cover essentially all operating costs, for which outside funding is generally not available. For capital spending, however, public support plays a larger role; small rural systems in particular depend heavily on loans and grants from the Rural Utilities Service, the federally supported state revolving funds, other federal programs noted above, and state-level aid programs. Even large systems draw on some federal assistance: responses from 97 large wastewater utilities to a 1999 survey by the Association of Metropolitan Sewerage Agencies showed that an average of 9.6 percent of funds for capital improvements between 1999 and 2003 were expected to come from loans from state revolving funds and another 2.0 percent from federal grants.[31]

Those current financing patterns shed limited light on future needs for federal funding, however. On the one hand, they may obscure the extent to which even large utilities have been deferring important investments for lack of available funds. On the other hand, they also do not reveal the extent to which future needs could be reduced through more efficient pricing, investment, and management, nor the prospects for increased contributions from ratepayers (particularly of large systems) or state or local governments.

31. Association of Metropolitan Sewerage Agencies, *The AMSA Financial Survey, 1999* (Washington, D.C.), p. 47.

Options for Increased Federal Spending

If the Congress wished to increase federal support for water infrastructure, it could do so in various ways. The options include (1) across-the-board increases in funding for all community water systems and publicly owned wastewater systems, (2) increased support for the costs of complying with federal standards, (3) increased support for small systems and/or low-income ratepayers, and (4) increased research and development for treatment and distribution technology. The second and third options represent alternatives to the broader first option but are not mutually exclusive, and the fourth option could be combined with any of the others.

Across-the-Board Increases. Perhaps the most straightforward way for the federal government to provide additional support would be to do more of what it is already doing—that is, to increase federal contributions to the state revolving funds for drinking water and wastewater systems. However, some argue that the revolving funds are an inadequate answer to current and future needs because they merely reduce interest costs and otherwise leave the burden on ratepayers to fund all investments. To go further, the Congress could revive the construction grant program for wastewater facilities and extend it to drinking water systems as well. At the extreme, across-the-board funding could conceivably absorb $15 billion or more per year in additional spending if the federal government assumed responsibility for closing the entire "funding gap" estimated by the Water Infrastructure Network.[32]

The primary argument for substantial across-the-board increases is that the needs are so great, they cannot be met without federal help. In the words of the WIN report, "The bottom line is that without a significantly enhanced federal role in financing drinking water and wastewater infrastructure, critical investments may not occur."[33]

32. Interest costs represent $10 billion of the $23 billion annual gap in capital spending estimated in the WIN report. Those costs would presumably be much lower if the federal government provided a major infusion of up-front grant money.

33. Water Infrastructure Network, "Clean & Safe Water," p. 5-2.

By itself, that argument is at best incomplete. However large the needs may be, they are no less affordable for utility ratepayers—households, commercial and industrial businesses, and so forth—in the aggregate than for taxpayers, because the two are largely the same. A more complete version of the argument might state that because the costs are so large, some ratepayers should help other ratepayers through a federal redistribution. That rationale points most directly to increased support for low-income households and high-cost (small) systems, as discussed below, but supporters of broad federal assistance might argue that universal assistance is a simpler or more stable way to accomplish the redistribution than targeted assistance.

Another argument that can be made for broad support of wastewater systems is that they often have positive externalities—that is, they often confer a benefit on downstream water users who do not pay for the systems. Indeed, one justification for the original construction grant program under the Clean Water Act was that it was appropriate for the government to help defray the costs of meeting the new wastewater standards because much of the benefit of each community's investment would accrue to others.

Conversely, one argument against federal assistance to water systems is that their problems are generally issues of local or regional concern. By that view, wastewater facilities may have deserved their original support on a short-term basis, to help communities adjust to a major statutory change, but should now be held responsible for their own contributions to water pollution, just as industrial dischargers are.

A related argument against broad federal support of water systems is that intervention in local issues can distort incentives and undermine efficiency. The greater the federal support, the lower the pressure on utility managers to minimize costs rather than face angry ratepayers, and the smaller the incentive for ratepayers to reduce their water use in light of its full costs to society.

Improvements in efficiency could significantly affect both the supply of and demand for water services. On the supply side, the quality of management, operations, and maintenance can have a major impact on water utilities' capital needs (for example, on how often pipes need to be overhauled or replaced); and water utilities, as publicly or privately owned monopolies, may not yet have been sufficiently challenged to operate efficiently. Indeed, in draft comments on EPA's forthcoming study of the alleged financing gap, the agency's Environmental Financial Advisory Board expressed its belief that "pollution-prevention and cost-effective management tools and techniques hold great promise in coping with the major financial implications of the Gap."[34] Increased federal aid could undermine the prospects for improved operational efficiencies—in part, by distorting choices between spending on capital and spending on O&M.

On the demand side, higher average water use in the United States than in other high-income countries (525,000 gallons per person per year, compared with, for example, 310,000 gallons in Canada and 221,000 gallons in Belgium) and higher use from public supplies than from private wells (350 versus 200 gallons per day for a household of four) both suggest that there is room for users to reduce their consumption if confronted with prices that fully reflect long-run capital needs.[35] Federal aid could continue to shield ratepayers from the true costs of their water use and undermine utilities' incentives to eliminate subsidies and cross-subsidies in their rate structures, charge higher prices during periods of peak use, or take other steps to reduce inefficient demand.

A final objection to across-the-board increases in federal funding is that some of the money would merely substitute for funds that would have been provided by ratepayers or from general revenues of state or local governments. Data from the early years of the construction grant program for wastewater facilities suggest such fiscal substitution: although federal support for investment in those facilities rose by $7.5

34. Pat Phibbs and James Kennedy, "Advice from Industry, Others Needed to Avert Crisis in Water Systems, EPA Says," *Environment Reporter*, March 10, 2000, p. 439. Pollution prevention can reduce costs by protecting sources of drinking water and by reducing the contamination faced by wastewater facilities. Thus, efficient management of water systems may go beyond the operations of the systems themselves to include some pollution-prevention measures.

35. Environmental Protection Agency, Office of Water, *Water on Tap: A Consumer's Guide to the Nation's Drinking Water* (July 1997), p. 7.

billion per year from 1970 to 1980 (in 1997 dollars), investment by state and local governments (including public utilities) fell by $1.8 billion, effectively negating about one-quarter of the federal increase. According to a more detailed analysis, which took into account factors that might otherwise have led to increased state and local investment, each dollar of federal construction grants reduced other capital spending by 67 cents.[36] Supporters of increased federal funding argue that provisions to reduce fiscal substitution—for example, requirements to at least maintain previous levels of nonfederal spending—could be included in new grant programs. They also argue that the needs—including the growing needs for operation and maintenance—are so large relative to the funding likely to become available, state and local governments will be little tempted to reduce their own spending.

Funding to Meet the Costs of Federal Standards. A program intended to help water systems pay for investments needed to comply with federal water standards would have much in common with a more general assistance program. However, the maximum amount of assistance the federal government could conceivably provide would be lower than the maximum of $15 billion per year under the general approach because some large categories of costs—notably, routine replacement of pipes—would be excluded.

More specifically, the potential maximum here would depend on which requirements were deemed eligible for assistance. If the only eligible costs were those for complying with federal drinking water standards, the maximum would average just $1.5 billion per year over 20 years (according to EPA's latest surveys, which may understate relevant costs, as noted above)—less than the current appropriations for state revolving funds. That definition of eligibility excludes all investments in wastewater systems on the grounds that restrictions on discharging pollutants into the water are better viewed as exercises of police power to protect downstream users and the environment rather than as impositions of federal standards that supersede local preferences. Alternatively, one could include the costs for secondary and advanced treatment of wastewater on the grounds that those costs reflect federal standards for how clean effluent waters should be.[37] Adding those costs raises the potential federal contribution to $3.7 billion per year (again, based on the estimates in EPA's surveys). If the costs of preventing overflows from sanitary sewers and combined sewers were also deemed eligible, the maximum amount of federal assistance under this policy could reach $10 billion per year.

Focusing on the costs of meeting federal standards, whether narrowly or broadly defined, adds a fairness argument to the case for federal assistance. If federal policymakers determine that the national interest is served by imposing uniform standards, it seems reasonable to consider whether the nation as a whole should bear the costs—especially in cases in which local costs seem likely to exceed local benefits, as is true of many drinking water standards applied to small systems.[38]

But just as across-the-board increases in federal assistance could undermine efficiency, aid targeted at the costs of meeting federal standards could distort incentives and reduce pressure on system managers to improve their operations. A second argument against such aid is that it would entail difficulties in defining and measuring the costs of meeting the standards. In many cases, the only feasible definition of the cost of a standard would be the total cost of compliance; yet under that definition, a significant share of the federal aid would merely reimburse local systems for costs they would have incurred voluntarily in the absence of the requirement. For example, without a standard from EPA limiting the concentration of some newly recognized contaminant to 5 parts per billion (ppb), various water utilities might have chosen on their own to meet that same standard or to install equipment that would attain some less stringent standard, such as 10 or 15 ppb, rather than to do nothing. Arguably, implicitly reimbursing local sys-

36. James Jondrow and Robert A. Levy, "The Displacement of Local Spending for Pollution Control by Federal Construction Grants," *American Economic Review*, vol. 74, no. 2 (May 1984), pp. 174-178.

37. Advanced treatment reduces the amount of suspended solids and biological oxygen demand by more than the 85 percent typically required or reduces other contaminants, such as nitrogen and phosphorus.

38. For a discussion of the types of considerations that might justify uniform national standards, see Congressional Budget Office, *Federalism and Environmental Protection: Case Studies for Drinking Water and Ground-Level Ozone* (November 1997).

tems for money they would have spent anyway, a form of fiscal substitution, would reduce the fairness gains produced by the aid. And measuring total compliance costs could itself be problematic: nationwide estimates could neglect important variations in local circumstances and be skewed by pessimistic industry analyses, while system-specific reimbursements would require extensive auditing of costs to prevent abuse. Finally, one could argue that such assistance would be unfair to those water systems (and their ratepayers) that had already invested to meet the standards, unless the aid was also available retroactively.

Support for Small Systems and Low-Income Households. Consistent with the primary argument used by supporters of increased federal assistance—namely, that water utilities and their customers simply cannot afford to pay the necessary costs—another relevant policy alternative would focus aid on the neediest systems and households.

The Congress could target funding to small rural systems, to low-income households, or both. Focusing on the water systems might be simpler—it could be accomplished, for example, by expanding the existing programs of USDA's Rural Utilities Service—but could leave low-income households in urban and suburban areas struggling to pay rising water bills. In either case, the amount of federal spending would depend on how narrowly the aid was targeted. The department reported that it had a $3.3 billion backlog of requests in 2000, whereas the program received $744 million in funding in 2001.

Targeted federal support would probably be more efficient than broader aid because that approach would confront more water systems with the full costs of their investment and operational choices and more ratepayers with the full costs of their consumption decisions. Conversely, some systems that did not receive federal aid might unwisely defer necessary investments and maintenance until disastrous failures occurred. Also, a targeted program might not reach all equally needy households, especially if the aid went solely to water systems on the basis of their size.

Research and Development. A fourth option for increased federal support would be to increase spending on R&D that could reduce water systems' costs and improve efficiency. Relevant subjects include not only treatment technologies but also pipe materials and methods of construction, maintenance, and demand management. Currently, the federal government spends roughly $10 million per year on such research; two industry groups, the Water Environment Research Foundation and the American Water Works Association Research Foundation, add a similar amount from private funds. How much more could be productively spent is uncertain, but the current effort is certainly small relative to the size of the industry or its projected investment needs.

Unlike the previous options (with which it could be combined), this last approach focuses on reducing the resource costs involved in water services and thus the amount that must be spent to close the alleged funding gap. One argument for the option is that the federal government has a stronger incentive than do individual states and water systems to take account of the nationwide benefits that would accrue from a particular research finding or innovation; therefore, federal support could improve efficiency by funding worthwhile projects that other parties would not. However, proponents of more aggressive federal aid would argue that while support for R&D is important, it is unlikely to make a large enough contribution to the pressing needs of the coming decade.

Civilian Research and Development

Research and development are important in many areas other than drinking water and wastewater, of course, and many in the Congress are exploring ways in which to augment federal support for R&D, especially in light of the more visible role technology has come to play in U.S. economic growth. Some legislative proposals seek to increase civilian R&D across the board, while others seek to implement a more selective approach—for example, focusing on information technology or on medicine and human biology. Other ideas prominent in the policy debate would focus additional R&D funding on universities (because of the special role they play in the creation and dissemination of technical knowledge); on particular scientific fields thought to have been neglected

recently; or on interdisciplinary research, which might go unfunded through standard peer review mechanisms but has a higher potential for new breakthroughs.

Rationales for Increasing Federal R&D

Federal R&D is usually justified one of two ways. First, it may be necessary in order to fulfill a federal mission, such as defense. As noted below, most federal R&D is mission-related. Second, it may help the economy or society at large by correcting for a market failure that would otherwise lead to too little investment in some types of R&D. As with research on water systems, the market failure arises because the benefits of R&D do not accrue only to the performer or sponsor of the work; rather, they spread—often at low or no cost—to others in the society through the dissemination of scientific information and copycat inventions. Representing society at large, the federal government can take such spillover benefits into account and thus may be willing to fund research whose likely payoff would seem inadequate from the narrower perspectives of private investors or even state governments.

Currently, the economy is in the midst of a technology and science boom—a situation that presents both opportunities and problems for those who would increase the federal investment in R&D. On the one hand, possible uses of federal funds abound. As knowledge expands through the resolution of simpler questions, the subsequent questions tend to be more difficult and to require more resources; therefore, there are now more scientists than ever doing R&D. On the other hand, nonfederal, especially private, spending on R&D is at an all-time high. Surveys from the National Science Foundation (NSF), while not perfectly consistent with appropriation data, suggest that industry spends roughly twice as much on R&D as the federal government does. Consequently, federal R&D funds must be well targeted if the goal is to support activities that private actors would not fund on their own.

Another consequence of the boom in technology and science is a tight labor market for researchers. Because the number of scientists and engineers qualified to do R&D is limited and can grow only slowly, some share of current federal spending on R&D may go to increase researchers' wages—particularly in fields such as aeronautical engineering, for which federal spending represents a large fraction of total demand—rather than to increase national R&D activity overall. According to one analyst, higher salary levels of scientists and engineers working in R&D accounted for between 8 percent and 30 percent of the increase in federal R&D spending from 1968 to 1994.[39] However, that estimate is probably overstated because the analysis does not control for other factors—such as the growth in private R&D and the increased technical intensity of the economy as a whole—that may have had a greater impact on those wages. Moreover, higher wages can be expected to help attract additional researchers over time. Indeed, the combined share of natural scientists, engineers, mathematicians, and computer scientists in the labor force rose from 2.4 percent in 1982 to 3.4 percent in 1999, roughly a 40 percent increase, which suggests that R&D spending over that period did not encounter long-lived shortages of skilled personnel.

Federal R&D Funding Considered by Function and Category

For fiscal year 2001, the federal government is providing an estimated $90.9 billion in budget authority for the conduct of R&D and for facilities and major equipment devoted to R&D. That amount represents a 9 percent increase over the 2000 level of $83.3 billion.

Mission-Related R&D. One way to categorize most federal R&D is by its mission. Most R&D funded by federal agencies in recent years has been devoted to furthering federal missions in four principal areas: in decreasing order of spending, defense, health, space exploration, and energy. In 2001, those four missions accounted for $77.7 billion, or 85 percent of the total budget authority devoted to R&D and related equipment and facilities. (Proposals for increased spending on defense-related R&D are discussed in Chapter 4 of this volume.)

39. Austan Goolsbee, "Does Government R&D Policy Mainly Benefit Scientists and Engineers?" *American Economic Review*, vol. 88, no. 2 (May 1998), pp. 298-302.

The end of the Cold War has brought about a shift in federal R&D spending. Budget authority for federal civilian R&D rose from $25.5 billion in 1990 to $45.3 billion in 2001. By contrast, defense R&D funds increased only from $41.0 billion to $45.5 billion over the period. In constant dollars, civilian R&D funds rose 30 percent, while defense R&D funds fell 19 percent.

Federal Funding for the Science and Technology Base. An alternative to classifying federal R&D by mission is to divide it into three types: basic research, applied research, and development. Less than a quarter of federal R&D budget authority is devoted to basic research, while more than 50 percent goes to development. Federal missions vary widely in their need for near-term technologies versus long-run knowledge. For defense, the bulk of R&D funding goes to development, and just 3 percent to basic research. For health, by contrast, funding of basic research accounts for 55 percent of all R&D budget authority.

Many analysts have long argued that much of the spending that federal agencies classify as development (for weapons and other technical systems) does not go toward developing new products and should be considered advanced engineering support rather than R&D. By that view, government data overstate the federal contribution to R&D. That classification problem is not solved by separating out defense R&D: some civilian R&D funds, especially those of the National Aeronautics and Space Administration (NASA), are for technical systems, while some defense research does contribute to the long-term science and technology base.

In response to those concerns, the National Academy of Sciences developed a measure of the federal contribution to the science and technology base by excluding the funding of advanced technical systems. The academy argues that its measure better indicates the level of federal investment in new science and technology. According to the academy's tally, federal budget authority for the science and technology base has risen in recent years from $42.7 billion in 1995 to $52 billion in 2000, an increase of 22 percent.[40] Adjusted for inflation, the increase is 13 percent.

The Clinton Administration developed an alternative approach to the same problem in defining the scope of its 21st Century Research Fund. The budget authority for that narrower set of R&D programs has risen over the last six years, from $31.2 billion in 1995 to $44.9 billion in 2001, a nominal increase of 44 percent.

A different measure of the federal contribution to the science and technology base considers federal R&D funds that ultimately go to universities. Universities are unique performers of research in that they have an explicit training function for the next generation of scientists and engineers; indeed, research funds that go to universities often end up supporting research performed by graduate students. Universities also have a built-in technology transfer mechanism, in that most students leave and go to work in industry, where they typically bring their knowledge to bear on a related range of practical problems. Federal R&D funding for university research has grown in recent years, from $12.4 billion in budget authority in 1995 to an estimated $16.5 billion in 2000, an increase of 33 percent. Over two-thirds of the growth, $2.8 billion of the total increase of $4.1 billion, came in 1999 and 2000.

Most of that growth in federal support of academic R&D reflects the rise in funding for biomedical research, primarily at the National Institutes of Health (NIH). NIH funds more than $10 billion in university research, accounting for 60 percent of all federal funding for academic research. Between 1995 and 2001, budget authority for NIH's R&D rose from $10.8 billion to $19.6 billion, driving an increase for the health mission from $11.4 billion to $21.4 billion.

Options for Increasing Federal R&D

Several different approaches have been suggested for increasing federal support of R&D, some of which

40. The Academy recently changed its methods of accounting for atomic energy defense activities, but the estimates from different years remain comparable.

have been introduced in legislation. Among the available options are setting targets for increased aggregate spending, continuing to emphasize biomedical research, emphasizing scientific fields thought to have been neglected in recent years, focusing on particular types of recipients (such as universities or businesses), and focusing on innovative or interdisciplinary research outside the mainstream "research base."

Setting Higher Aggregate Targets. One bill introduced in the 106th Congress, S. 296, proposed to authorize a steady increase in the aggregate level of civilian R&D funding, specifically, a 2.5 percent annual increase above the rate of inflation through fiscal year 2010. That bill would have doubled aggregate civilian R&D from $34 billion in 1998 to $68 billion in 2010 and commissioned a study from the National Academy of Sciences to determine funding priorities in science. A related approach that received some attention was to fix civilian R&D as a percentage of total nondefense discretionary spending.

Opponents of across-the-board increases say that R&D policy should be driven not by aggregate tallies, but by Congressional decisions on particular programs. Many in the Congress who support increasing the overall level of R&D would vote against particular R&D programs or would focus additional resources on specific areas. For example, another bill introduced in the 106th Congress, H.R. 2086, focused only on computer networking and information technology, authorizing an increase of $6.9 billion between 2000 and 2004 across several different agencies.

Increasing Biomedical Research. Another option for increasing R&D is to continue the current policy of concentrating R&D increases on medical research at NIH. Between 1995 and 2001, budget authority for NIH rose by $8.8 billion, or 81 percent, while federal spending on other civilian R&D grew only 15 percent, roughly keeping pace with inflation.[41]

The economic benefits of improved health are large, if sometimes difficult to measure. Between 1965 and 1996, the average age at death increased by seven years, primarily because of reductions in deaths from cardiovascular disease.[42] Multiplying seven extra years by the population of the United States and by even a modest valuation of the worth of a year of life produces very large gains for the nation. Thus, even incremental gains against major diseases, such as cancer, could have enormous economic benefits.

Much of the gain in longevity has resulted from changes in behavior, such as a reduction in smoking, but medical technology has also played a substantial role. For example, according to a recent report from an organization that advocates increased federal funding of biomedical research, technological improvements in the treatment of cardiovascular disease yielded gains of about $500 billion per year from 1970 to 1990. That estimate reflects the results of two studies: one which found that the value of increased longevity from the total reduction in cardiovascular deaths averaged $1.5 trillion annually over the period and a second which estimated that one-third of the reduction in deaths came from improvements in medical technology used just after acute cardiovascular attacks, such as heart attacks, and in long-term treatments of chronic conditions, such as hypertension.[43]

Even if that estimate of $500 billion in welfare gains is correct, not all of that amount can be credited to the basic research program at NIH: some basic research is funded privately, and pharmaceutical companies and other medical technologists build on the basic results. Notwithstanding the uncertainty and imprecision, however, the magnitude of the estimate illustrates the claim that biomedical research may have large payoffs.

41. Budget authority for civilian R&D outside of NIH was $22.4 billion in 1995 and $25.8 billion in 2001. Some individual agencies or programs did more than keep pace with inflation; for example, the National Science Foundation's budget authority for R&D rose from $2.4 billion to $3.2 billion during the period.

42. The Albert & Mary Lasker Foundation, "Exceptional Returns: The Economic Value of America's Investment in Medical Research" (New York: The Albert & Mary Lasker Foundation, 2000), p. 3, available at www.laskerfoundation.org/fundingfirst/papers/Funding 20First.pdf.

43. David Cutler and Srikanth Kadiyala, "The Economics of Better Health: The Case of Cardiovascular Disease"; Kevin Murphy and Robert Topel, "The Economic Value of Medical Research" (papers presented at the Conference on the Economic Value of America's Investment in Medical Research, Washington, D.C., December 2-3, 1999, and cited in The Albert & Mary Lasker Foundation, "Exceptional Returns," p. 8).

While analysts generally agree that the rapid increase of the last several years in federal funding for biomedical R&D has been justified by the potentially large benefits, some contend that further increases in R&D could be better spent elsewhere. Those analysts note, for example, that the biggest recipient of funds at NIH since 1972, when the "War on Cancer" was declared, has been the National Cancer Institute, yet the age-adjusted mortality rate from cancer has fallen only 6 percent. As discussed next, such critics join other parties in arguing for additional funding to be directed toward other fields of science and engineering.

Targeting Neglected Scientific Fields. The recent emphasis on funding for NIH—which has historically focused its efforts on a relatively narrow set of fields in biology and medicine, leaving the National Science Foundation and others to fund physics, chemistry, math and computer science, and other fields relevant to health—has shifted federal spending on basic research in the sciences and engineering. Between 1990 and 1999, the share of that funding going to biomedical research rose from 41 percent to 44 percent; at the same time, the share going to physics, chemistry, and other physical sciences dropped from 18 percent to 14 percent, and the share for basic engineering fell from 20 percent to 18 percent, continuing a long-standing decline from the 1970 level of 31 percent. NIH's leaders have recently begun to increase its support for some fields outside of its traditional core, especially computer science, and is helping the Department of Energy with the capital costs of developing light sources needed for X-ray crystallography. But NIH's portfolio of basic research remains narrow in comparison to the range of investments in science funded by the Department of Defense in recent decades.

Some analysts argue that the Congress should increase funding for research in physical sciences and engineering, even if only to serve its stated goal of rapid progress in life sciences research. They argue that no scientific field progresses in isolation and that recent progress in biomedicine has come in large part because of gains in other fields that have provided key scientific instruments and techniques used by biological and biomedical researchers—including ultrafast computers and software (critical to progress on the human genome), X-ray crystallography, nuclear magnetic resonance imaging, electron microscopy, and the use of particle accelerators to produce synchrotron radiation for imaging. They further note that as human knowledge increases, old fields combine in new ways. The sequencing of the human genome has created such a field—bioinformatics, which analyzes human genetics using information technologies, taking advantage of the parallels between human genes and computer software.[44] The effort to investigate the implications of those commonalities and apply them to the search for new drugs and other medical research is aided by the current vitality of U.S. software research.

The value of any cross-fertilization effect among disciplines is difficult to measure, however. Analysts studying the patterns of the diffusion of new ideas by analyzing the footnotes, bibliographies, and other citations in scientific articles find that the overwhelming percentage of the citations are generally within disciplines—that is, chemists cite chemists, physicists cite physicists, and biologists cite biologists. That finding may suggest that marginal changes in federal funding in one field are unlikely to affect progress in others, notwithstanding some interdisciplinary borrowing of tools and methods, and thus that the value of balanced funding to achieve a particular research goal may be overstated.

Some supporters of increased funding for physical sciences and engineering make the more direct argument that the current research portfolio simply leaves unfunded too many promising projects in those fields; many such supporters point to the distribution of R&D funding from the 1960s through the 1980s as illustrating a more balanced portfolio. Others argue that physics and other physical sciences received disproportionate support during the Cold War because of their closer connection to the defense mission. As the urgency of that mission has waned, they claim that a shift in R&D priorities is entirely appropriate.

If the Congress wished to adjust funding shares among research fields, the current appropriation mechanisms would not make it easy to do so. Because the five agencies with the largest R&D respon-

44. Ken Howard, "The Bioinformatics Gold Rush," *Scientific American*, July 2000, pp. 58-63.

sibilities are covered in four different appropriation bills, changes in funding for one science cannot be traded off directly against changes for others. Only within the budget for NSF can such trade-offs be made directly and explicitly (and even that relatively broad budget currently covers little in energy or space research). Accordingly, one reason that some in the Congress seek to double NSF's budget by 2006 is to create room for a desired balance among research fields.

Targeting Specific Types of Recipients. Widespread interest exists in focusing federal R&D programs (outside of mission-specific areas) on basic research by universities. By focusing on university research, advocates argue, the federal government is least likely to pay for research that duplicates or would otherwise be funded by commercial interests. As noted above, private R&D funding exploded in the last five years and is now about twice the federal level. In addition, venture capital for startups, mostly in technology-based industries, has grown from $4 billion per year in the late 1980s to nearly $50 billion today.

Acknowledging that private parties place much more emphasis on commercial applications, industry observers suggest that the main role for federal funding is in basic research, especially at universities, colleges, and nonprofit research institutions. Industry spent only $1.8 billion for university research in 1998, whereas the federal government spent $15 billion.

Advocates of increased federal funding for university research point to both short-term and long-term benefits. In the short term, as described earlier, research provides the venue in which to train students, most of whom subsequently go to work in industry, where they contribute to the economy directly.

In the longer term, society benefits as the knowledge generated by the research becomes incorporated in future generations of products and their manufacture. Studies have shown that those less direct, long-term economic benefits are quite high. In reviewing such studies, CBO found that while federally funded R&D as a whole provided society with a low economic return—partly because it is dominated by mission-specific programs, such as national defense and space exploration, whose immediate goals are other than economic—federal R&D funds spent on academic research did yield a substantial return (as did private R&D).[45]

In the past, some analysts have advocated targeting some federal funds at early stages of business R&D to fill in gaps in venture capital and other private funding. The rapid growth in venture capital has reduced such calls for federal funding, except in instances in which the R&D fulfills other federal goals, such as energy conservation and environmental protection. (For example, see the discussion of the Partnership for a New Generation of Vehicles, option 270-08 in Chapter 5.)

Whether venture capital funding will continue to flow so readily is unknown. Much of the current boom may reflect the ability of companies backed by venture capital to issue stock and recoup the invested funds rapidly. In the past, such companies had to exhibit a history of revenue and earnings growth before they could issue stock on the public exchanges. At present, the market for initial public offerings (IPOs) is down from its highest levels; should the stock market cool to the point that startup companies find it harder to place IPOs and attract venture capital, federal policymakers might again find themselves encouraged to supplement the efforts of venture capital firms.

Targeting Innovative Research. A substantial portion of the funds of every R&D program goes to repeat grantees. Those researchers are very often veterans in their fields, with long histories of success and publication and a commitment to the existing mainstream research agenda. According to some analysts, that approach provides little room in a budget for new breakthrough ideas or interdisciplinary approaches, so they propose setting aside money from each agency's research budget to fund ideas that are novel or do not fit in the current categories. Agencies that already have small programs targeted at such ideas, such as NIH and NSF, could increase the proportion set aside for them.

45. Congressional Budget Office, *The Economic Effects of Federal Spending on Infrastructure and Other Investments*, CBO Paper (June 1998).

One argument against such set-asides is that novel and interdisciplinary research is difficult to evaluate, almost by definition, leaving agencies no reliable means by which to rank proposals competing for the same funds. Peer review has proven to be the most successful mechanism for evaluating mainstream research proposals, but set-aside programs seek to avoid the alleged conservative bias of standard peer review. A second argument is that such set-asides could be harder to sustain in the future, when the fiscal climate for R&D spending may be tighter. Finally, proposals for increased set-asides arguably undervalue the teaching role played by the mature researchers.

Maintenance of Federal Assets

Although long-lived assets owned by the federal government are fundamental to many public services, regular maintenance (along with renovation and replacement) of those assets is sometimes delayed. Deferring maintenance is sometimes an appropriate short-term strategy for coping with a budget squeeze, but the current surplus may provide an opportune time for the federal government to increase funding for maintenance and reduce agencies' reported backlogs of needed projects.

The inventory of federal assets is large and diverse, and spread across every state and territory and more than 160 foreign countries. According to the *Financial Report of the United States Government, 1999*, the federal government holds "property, plant, and equipment" worth approximately $298 billion, excluding assets associated with national defense.[46] Those holdings include office buildings, embassies, courthouses, penitentiaries, laboratories, monuments, utility systems, post offices, border crossing stations, space launch facilities, dams, ships, aircraft, and spacecraft. Properly maintained, federal facilities provide a productive and safe environment for the private citizens, foreign visitors, elected officials, and federal employees who use them, and they reflect well on the nation as a whole. In some cases, federal buildings also embody and preserve history, culture, and exceptional architecture.

Conversely, assets that have deteriorated due to deferred maintenance can have adverse consequences. For example, problems with heating, cooling, and other critical building systems can disrupt government services and even render structures unusable. Structural failure can threaten public safety. Certainly, physical decay can mar buildings' appearances. And delayed maintenance can increase repair costs, sometimes dramatically—as when neglect of a leaky roof leads to extensive water damage.

According to the National Research Council (NRC) and other observers, agencies across the federal government have accumulated significant backlogs of maintenance and renovation needs.[47] The problem is partly one of funding: federal agency representatives participating in a 1998 study indicated that the maintenance funding they receive regularly falls short of the NRC's suggested range of 2 percent to 4 percent of the aggregate current replacement value of government buildings.[48]

Inadequate information and other management weaknesses have also contributed to the problem of deferred maintenance.[49] As discussed below, many federal agencies have historically lacked an accurate inventory of their assets, the starting point for an assessment of maintenance needs. Even in some cases in which accurate inventories have been available, information about the consequences of deferring maintenance has not been incorporated into agencies' decisionmaking, or forward-looking strategic plans to anticipate the need for repairs and renovations (and thus to request funding in a timely fashion) have been absent.

Another factor that may contribute to the backlog of federal maintenance projects is the requirement of the Davis-Bacon Act that not less than locally prevailing wages be paid on federal contracts

46. Department of the Treasury, *Financial Report of the United States Government, 1999*, p. 49, available at www.fms.treas.gov/cfs/99frusg/99frusg.pdf.

47. See, for example, National Research Council, *Stewardship of Federal Facilities: A Proactive Strategy for Managing the Nation's Public Assets* (Washington, D.C.: National Academy Press, 1998).

48. Ibid, p. 15.

49. Ibid, pp. 17-18.

for construction, alteration, repair, painting, and other maintenance activities. Nonfederal employees covered by the act often receive higher wages than they would otherwise because of the way "prevailing wages" are defined and measured. By raising labor costs, the act reduces the amount of maintenance that can be accomplished within a given budget. (More discussion of the effects of the Davis-Bacon Act can be found in options 920-05-A and 920-05-B in Chapter 5.)

The Extent of the Problem

While many agencies and outside observers have noted the problem of deferred maintenance, no one has succeeded in quantifying the full extent of it. The size and composition of the maintenance backlog are always in flux, as assets deteriorate from normal use and the forces of nature and as maintenance, renovation, and replacement projects are initiated and completed. Definitional issues also impede the tally, since there are no universal definitions for when assets need repairs or guidelines for the extent of the repairs needed. Further, the extent of repairs can vary significantly, depending on whether the goal is simply to keep an asset operational or to return it to a like-new condition.

Until recently, federal agencies were not required to assess or report outstanding maintenance, and very few did. However, as of 1998, the Statement of Federal Financial Accounting Standards No. 6, *Accounting for Property, Plant and Equipment*, requires agencies to disclose their deferred maintenance in their financial statements. Complying with that reporting requirement has proven difficult.[50] Some agencies have been hampered in their efforts because they lack an accurate accounting of their holdings. According to the General Accounting Office, the federal government as a whole lacks adequate systems and controls to provide accurate information on the number and value of assets it holds.[51] In addition, the diversity of missions and assets within some agencies has complicated their efforts to develop consistent policies and guidelines for complying with the requirement.

Although comprehensive data on the federal government's maintenance backlog are lacking, the information available for certain agencies helps illustrate the nature and extent of a broad problem. The following subsections examine the circumstances of three agencies, chosen to reflect the wide variety of federal assets: the General Services Administration (GSA), the National Park Service, and the Coast Guard.

Deferred Maintenance of Federal Buildings

Most federal personnel work in one of the 1,682 buildings owned, operated, and maintained by GSA's Public Building Service. The relationship between GSA and the federal agencies it houses is like that of a landlord and tenant: GSA provides space and services to federal agencies and in return collects rental assessments that approximate commercial rates for comparable space and services.

As a group, federal buildings suffer from a significant amount of deferred maintenance. GSA recently estimated that it needs $4 billion to eliminate its backlog of 5,585 outstanding maintenance projects. That estimate is almost six times the agency's 2001 appropriation for repairs and alterations. Most of the identified projects are relatively minor and inexpensive; a small number, however, are major and very expensive. The bulk of the estimated costs—60 percent—stems from the repairs needed for 44 buildings, each of which requires more than $20 million in work. Some of the repairs listed in GSA's maintenance backlog were first identified over 10 years ago.

The precise size and composition of the backlog have been called into question. A recent review by GAO of GSA's database of needed repairs and alterations noted multiple problems: not all repairs were included in the database; some repairs that were included were already in progress or completed; some data were incorrectly repeated; and some cost estimates were not current.[52] Notwithstanding those con-

50. General Accounting Office, *Deferred Maintenance Reporting: Challenges to Implementation*, GAO/AIMD-98-42 (January 1998).

51. Letter from David M. Walker, Comptroller General of the United States, to the President, the President of the Senate, and the Speaker of the House of Representatives, March 20, 2000.

52. General Accounting Office, *Federal Buildings: Billions Are Needed for Repairs and Alterations*, GAO/GGD-00-98 (March 2000), p. 8.

cerns, there is little doubt that GSA's backlog of maintenance projects is extensive.

According to GSA, the primary cause of the maintenance backlog is that funding failed to keep pace as needs grew. The maintenance demands of GSA's buildings are increasing because of their advancing age; half of the buildings are more than 50 years old.[53] Also, repairs are growing more costly because of the need to accommodate the improved electrical and telecommunications capabilities that are essential to modern office operations.

Money to operate and repair GSA's buildings comes from the Federal Building Fund, a revolving fund supported by rental assessments and annual appropriations. The Congress exercises control over the fund by setting limits on the total amount that can be drawn and by approving specific projects. To commence a repair project whose cost exceeds $1.93 million, GSA is required to prepare a prospectus and obtain approval from the Office of Management and Budget (OMB) and the House and Senate committees responsible for public works. In fiscal year 2001, the Congress appropriated $671 million in new obligation authority from the Federal Building Fund for repairs and alterations, less than President Clinton's request of $721 million, which in turn was below the $900 million GSA proposed as an annual budget for repairs for 2001 to 2005.[54]

Both GAO and the National Research Council have cited a lack of strategic planning by GSA as another factor contributing to the maintenance backlog. GSA does not have a comprehensive plan that identifies all needed repairs, establishes the relative merits of various projects, and proposes a strategy to repair the most deteriorated structures. Such a plan would help the agency better target its limited repair resources and help the Congress make more informed decisions about general funding levels for repairs and the funding of specific projects.

53. National Research Council, *Stewardship of Federal Facilities*, p. 17.

54. General Accounting Office, *Federal Buildings: Billions Are Needed*, p. 8.

Deferred Maintenance in the National Parks

Over its 84-year history, the National Park Service has acquired a large and diverse inventory of assets tied to its mission of preserving natural and cultural resources for the enjoyment, education, and inspiration of current and future generations. Within the 376 units it manages—including not only parks but also parkways, cemeteries, historic homes, forts, caverns, and trails—the Park Service owns and maintains over 16,000 permanent structures, 1,500 bridges and tunnels, 5,000 housing units, 1,500 water and waste systems, and 400 dams. The Park Service values those assets at over $35 billion.[55]

Determining the appropriate level of maintenance spending for the national parks is complicated by the character of the Park Service's goals and the type of services and benefits that parks provide. Quantifying the natural and cultural preservation that parks provide or the enjoyment, education, and inspiration that they produce is difficult—as is ascertaining the connection between the funding for maintenance and the achievement of these goals. For example, the benefit to park visitors from renovating housing for park employees is indirect and hard to measure. Not surprisingly, spending on maintenance may take a back seat to other spending options that provide more visible returns, such as the creation of new parks. The Park Service has been assigned 60 new parks and other units since 1979.

Of course, new parks add to the demands on the Park Service's maintenance budget, as do increases in the number of visitors. The large and growing popularity of the national parks—which are expected to receive 290 million visits in fiscal year 2001, up 30 million from 1996—is perhaps the biggest single cause of the maintenance backlog. And like many other federal assets, national park facilities are aging and demanding more frequent and costly maintenance and repairs.

55. Statement of Barry T. Hill, Associate Director, Energy, Resources, and Science Issues, Resources, Community, and Economic Development Division, General Accounting Office, before the Subcommittee on Interior and Related Agencies of the House Committee on Appropriations, published as General Accounting Office, *National Park Service: Maintenance Backlog Issues*, GAO/T-RCED-98-61 (February 4, 1998).

For several years, advocates for the national parks have argued that pressure to maintain governmentwide fiscal discipline has kept maintenance funding at inadequate levels. The National Parks and Conservation Association suggests that the parks need $630 million in additional annual funding for operations—roughly a 40 percent increase—to meet ongoing requirements, including keeping abreast of regular maintenance needs. And according to information that the Park Service provided to the House Appropriations Committee, the service sought $1,625 million for operations and $308 million for construction and major maintenance for fiscal year 2001, but the President's budget request ultimately reduced those amounts by about 10 percent and 40 percent, respectively, to $1,454 million and $180 million. Combined, the requested amounts represent roughly $5.60 for each visitor the Park Service expects during the year.[56] Of course, the Congress need not be bound by the President's request, and indeed the actual appropriations for 2001 are higher: $1,467 million for operations (including $78 million for park police) and $242 million for construction.

Estimates of the size of the accumulated backlog are imprecise. Major components of the backlog include work on roads, bridges, dams, and employee housing.[57] A 1998 GAO report suggests that some guest lodging—which is also owned by the federal government, though it is managed privately—needs substantial renovation.[58] Additional projects include efforts to protect trails and shorelines from erosion. According to the Park Service's estimates, the backlog tripled from $1.9 billion in 1987 to $6.1 billion in 1997. GAO has criticized those estimates because the underlying data were often several years old, included some items that constituted improvements or completely new construction, and did not reflect a consistent set of definitions and criteria.[59] The Park Service has conceded the shortcomings of its previous estimates of the size of the backlog; its latest estimate, as of the end of fiscal year 2000, is $4.1 billion. Even that smaller figure, however, dwarfs the service's recent budgets for such maintenance.[60]

The Congress has taken several steps in recent years to address the backlog of park maintenance projects. The annual appropriation for construction and major maintenance, which covers new construction as well as rehabilitation of existing assets, has steadily increased; it rose most recently from $225 million in 2000 to $242 million in 2001. Moreover, the Congress appropriated an additional $50 million for deferred maintenance needs of the Park Service in 2001, along with $100 million for other federal land-management agencies, and signaled its interest in providing that same funding annually through 2006 by establishing a "federal deferred maintenance" subcategory within a new conservation category of discretionary spending under the Balanced Budget and Emergency Deficit Control Act of 1985. Also, beginning in 1997, the Park Service and other agencies have been able to augment their appropriations with new and increased fees retained under the Recreational Fee Demonstration Program, which has brought the Park Service $457 million in additional funding in its first four years. More recent authorities, such as the National Park Passport Program and the retention of concession fees, have further increased the revenues available to the service for maintenance and other purposes. The Park Service expects to retain $180 million from all fee programs in 2001.

Whether the Park Service can make productive use of any further increases in funding is open to debate. Opponents argue that the immediate impact of the money available under the Recreational Fee Demonstration Program was limited and that the service should not be given any more funding until it has

56. The President's total budget request for the Park Service was $2,042 million, including nearly $300 million for land acquisition and assistance to states, $72 million for the Historic Preservation Fund, and $68 million for recreation and preservation.

57. General Accounting Office, *National Park Service: Efforts to Identify and Manage the Maintenance Backlog*, GAO/RCED-98-143 (May 1998).

58. General Accounting Office, *National Park Service: The Condition of Lodging Facilities Varies Among Selected Parks*, GAO/RCED-98-238 (August 1998).

59. General Accounting Office, *National Park Service: Efforts to Identify and Manage the Maintenance Backlog*.

60. An additional type of maintenance problem, not included in the above estimates, is the protection of native species and local ecosystems against encroachment by invasive plants and animals. In the 194 parks where invasive species are recognized as a serious problem, managers have identified needs for $63 million in projects involving plants and $18 million in projects involving animals.

shown that it can effectively use the amount already available. Supporters of further increases argue that the agency needed time to build up its capacity to review and manage projects but has now done so (as evidenced by obligations of $91.5 million in fiscal year 2000, nearly doubling the 1999 level); that current funding levels are still small relative to needs; and that delay will only compound the problem as assets continue to deteriorate.

Deferred Maintenance of the Coast Guard's Cutter Fleet

As the fifth armed military service of the United States, the Coast Guard performs a variety of missions—from participating in overseas military and peacetime operations to enforcing marine regulations and conducting search-and-rescue, drug interdiction, and border enforcement actions. Its area of responsibility covers millions of square miles of ocean and thousands of miles of coastline. To accomplish its missions, the Coast Guard employs a fleet of about 45 deepwater cutters (the service's largest vessels), 80 large patrol boats, and 190 aircraft and helicopters. The fleet of cutters—which operates 50 miles or more beyond the coast—is growing older, and many of the ships need to be modernized or replaced. On average, the cutters are 27 years old, close to their planned service life of 35 years.

To replace its aging cutters (and eventually its other deepwater ships), the Coast Guard has determined that it needs a procurement budget of roughly $15 billion over the next 20 years. That level of funding—roughly twice the current level of about $400 million per year—reflects the service's plans to operate a somewhat smaller fleet of cutters with greater capabilities than the ships they replace. That scenario illustrates the general point that "maintenance" is not a precise concept, in that what the Coast Guard describes as maintenance of its capabilities can also be viewed, at least in part, as improvement of its capital stock.

Critics have argued that the Coast Guard has not adequately studied or justified its need to acquire new cutters.[61] GAO suggests that proper upgrades and maintenance could extend the service lives of existing ships at a much lower cost than that for buying new vessels. The Coast Guard has yet to convince GAO that its existing ships and aircraft cannot meet the expected requirements of future missions. Furthermore, the vessels that the Coast Guard is proposing to acquire are still on the drawing board, and critics argue that it is too early to tell whether the eventual designs would meet the service's needs.

Addressing the Deferred Maintenance Problem

Reducing the existing governmentwide backlog of deferred maintenance projects in a cost-effective manner would probably require a combination of better management and more money. The evidence and analyses from GAO and other experts indicate that federal agencies must improve their accounting systems to better track and monitor the condition of their durable assets and must make better use of the data in identifying, prioritizing, and budgeting for maintenance. (Options for improving accounting and financial management systems are discussed in the next section.) Some current backlogs, however, are too large to be cleared within current maintenance budgets, no matter how efficiently the funds are allocated. For the future, agencies' sustained attention and an ongoing commitment to fund maintenance on a timely basis would be critical to keeping large backlogs of deferred maintenance from recurring.

Federal Financial Management

Like other organizations, the government needs reliable information on its assets, commitments, revenues, and costs if it is to make good decisions, run efficiently, and report accurately to its stakeholders—in this case, elected officials and the public. In re-

61. General Accounting Office, *Coast Guard's Acquisition Management: Deepwater Project's Justification and Affordability Need to Be Addressed More Thoroughly*, GAO/RCED-99-6 (October 1998).

sponse to long-term needs and legislative requirements, federal agencies are in the process of a major overhaul of financial operations and reporting. However, much remains to be done. In its recent audit of the *Financial Report of the United States Government*, *1999*, GAO found continuing weaknesses in federal financial practices and information.[62]

The Current Status

According to the Office of Management and Budget, federal agencies spent about $7.4 billion on financial management in 1999. That amount includes operating costs as well as investments in information systems. Substantial resources have been devoted to complying with a host of new requirements under the Chief Financial Officers (CFO) Act of 1990, the Federal Financial Management Improvement Act of 1996, the Government Performance and Results Act of 1993, and other mandates. Prior to the CFO Act of 1990, for example, neither the government as a whole nor individual agencies prepared annual financial statements outlining assets, liabilities, and other items. The act also required agencies to develop systems that provide complete, accurate, and timely reporting of financial and operating information. About $2.0 billion of the amount spent in 1999 is associated with computer-based financial management systems.

The considerable efforts devoted to improving the management of the government's financial affairs have had mixed results. Agencies continue to update their financial management systems, and according to the government's overall financial statement for 1999, the quality of the resulting information has improved.[63] More agencies produce annual financial reports now than ever before, and each year more of those statements receive favorable audit opinions; moreover, the government now reports annually on federal financial activity as a whole. Agencies have also experimented successfully with doing business electronically, with tougher and smarter debt-collection methods, and with other practices intended to strengthen the management of the government's finances.

Yet serious problems remain, as noted in GAO's audit report of the government's financial statement for 1999 and its ongoing series of reports on "high-risk" agencies and programs.[64] For example:

- Some major agencies and the federal government as a whole cannot report accurately the value of property, plant, equipment, and other assets. As discussed above, such deficiencies hamper efforts to identify and plan for maintenance needs; they also limit the government's ability to safeguard assets and to control fraud.

- Several agencies continue to have trouble producing and reporting reliable financial information; for instance, GAO reports that no major part of the Department of Defense can pass the test of an independent financial audit.

- Some agencies cannot reconcile their account information with information maintained by the Department of the Treasury.

- The Internal Revenue Service cannot report accurately on accumulated unpaid tax assessments and has inadequate systems to protect against the disclosure of proprietary information and theft.

- And some federal agencies are having trouble producing accurate subsidy estimates for major credit programs—for example, the Federal Housing Administration's Mutual Mortgage Insurance Program, which insures home loans made by private lenders.[65] Such problems make it difficult for the Congress to monitor and control costs for the more than $1 trillion in outstanding direct loans and loan guarantees.

62. The audit can be found in Department of the Treasury, *Financial Report, 1999*, pp. 19-41. For a review, see Congressional Budget Office, *Statement of Barry B. Anderson to the Meeting of the Federal Accounting Standards Advisory Board* (July 3, 2000).

63. Department of the Treasury, "Secretary's Message," in *Financial Report, 1999*, p. 1.

64. See, for example, General Accounting Office, *High-Risk Series: An Update*, GAO-01-263 (January 2001).

65. Congressional Budget Office, *Credit Subsidy Reestimates, 1993-1999*, CBO Paper (September 2000).

Providing Support for Improving Federal Financial Management

In part, the difficulty the government has had in getting its financial house in order reflects the sheer magnitude of the task. As the federal financial report for 1999 observes, the government is the nation's largest employer and landowner. A lack of resources may also be partly to blame. The amount that agencies have spent for financial management has remained fairly constant for the last five years, despite increased requirements imposed by the CFO Act and other legislation. If the Congress chooses to provide more support for federal financial management, it could direct resources to a number of different kinds of activities, some of which are described below. (Although the 106th Congress already acted to approve or reject the specific dollar figures mentioned in some of the examples, they are included here to illustrate the kinds of additional investments that could be made in future years or in other agencies.)

Improving Financial Management Systems. OMB's *Federal Financial Management Status Report and Five Year Plan* for 1999 argues that timely, reliable, up-to-date computer-based systems to record, process, store, and track financial information are essential if agencies are to improve their performance. In addition to providing better data more quickly to management, such systems can reduce errors, provide faster services, and help limit fraud. Many systems now used by agencies are at the end of their useful lives or simply do not represent the best of current technology. Many agencies, for example, still use separate systems for different aspects of financial management. Such arrangements often involve data entry at several points in the processing of various transactions, slowing activity and increasing the chance of error. Often, different organizations within an agency—such as the budget and the contracting offices—use different systems, making the task of aggregating information difficult.

The Congress has many opportunities to support efforts to improve financial management because most agencies are at some point in the long process of improving their systems and few have completed the work. The Department of Agriculture, for example, has been phasing in a new system for several years. Also, the Office of Personnel Management continues to upgrade its systems and to increase its financial management staff—an effort for which it received about $2 million in 2001.

Hiring and Training High-Quality Financial Management Personnel. The Congress could also provide more funding for agencies' staffing requirements. OMB's status report on financial management places a priority on ensuring that agencies have high-quality financial management personnel; however, financial management and related offices in some agencies have not received increases in staff for years, despite increases in workload. OMB's report also argues that professional development to train and develop current employees is key to maintaining a highly qualified financial workforce. Illustrating that view, the President's budget request for the Department of Agriculture asked for $2 million and 14 new employees in 2001 in part to support a financial management training program, but the Congress rejected the request, as it has similar proposals in recent years.

The challenge of providing high-quality staff may grow as a large number of senior employees in finance and related functions reach retirement age and leave the government. To attract talented young employees, the government will need to provide both competitive salaries and modern tools—financial management systems and procedures—for them to work with.

Expanding Electronic Systems. The government is conducting more of its business electronically—a practice that the Congress could seek to accelerate. In one example, the government plans to expand its use of electronic benefit transfers, now available to many recipients of food stamps and Social Security payments, to the nutrition program for women, infants, and children. The Small Business Administration is planning to implement a system so that citizens can apply for disaster loans electronically. And the Internal Revenue Service plans to allow taxpayers to authorize the agency to deduct tax payments from bank accounts. Electronic systems can strengthen financial management by reducing manual processing, improving accuracy, speeding transactions, and providing for better coordination of information.

Supporting Efforts to Improve Financial Management Governmentwide. The Congress could also support the efforts of agencies that must devote resources to governmentwide financial management

activities. OMB's Office of Financial Management, for example, provides general guidance and direction for agencies' efforts. OMB also prepares annual status reports on improvement activities. The Department of the Treasury must prepare annual financial statements for the government as a whole. GAO audits the financial statements for both the government as a whole and individual agencies. It also identifies and recommends solutions for continuing problems in federal financial management, including waste, fraud, and abuse, and reports on the status of financial practices in various agencies. The Office of Personnel Management has worked with OMB and others on revising job standards, improving training, and boosting recruitment and retention for federal financial management personnel. The General Services Administration has assisted with various electronic commerce programs. Various agencies of government support the work of the Federal Accounting Standards Advisory Board, charged with developing accounting standards for government, and the Joint Financial Management Improvement Program, charged with developing standards for financial management systems.

The payoff from giving greater priority and support to improving financial management could be substantial. The National Performance Review noted that given the enormous sums involved, even small improvements could result in large savings.[66] Better financial management could mean that managers have sound information with which to develop plans and make operating decisions, maintain control over assets, and report to the Congress and the public. Many have argued that the goals of the Government Performance and Results Act—such as improvements in the efficiency of federal operations, in the quality of federal services, and in the ability to distinguish successful from unsuccessful programs—will be impossible to realize without improved financial information systems. (For more information on the act and its implementation to date, see Appendix A.)

Conversely, given the poor performance of some agencies thus far, the Congress may reasonably wonder what benefits would derive from further investment in financial management. In general, management improvements may seem less worthwhile than programs with more direct, and often more certain, benefits to citizens. Some argue that the best way to improve federal financial reporting is to contract with private firms for financial services, and that doing so might allow spending to be reduced rather than increased.

66. National Performance Review, *From Red Tape to Results: Creating a Government That Works Better and Costs Less*, 1993, p. 81.

Federal Statistics and Data Collection

The federal government produces statistics on a broad range of subjects, including population, economic activity, public health, crime, and educational attainment. Those statistics inform Congressional and public debate on budgetary and other important issues and are used widely in planning, forecasting, and decisionmaking. The Clinton Administration maintained that inadequate funding has hampered the government's ability to keep statistical information timely and accurate in the face of rapid changes in the economy and society. The Congress could help by providing additional funds.

Federal Statistical Programs

According to the Office of Management and Budget, the government spent about $4 billion on major statistical programs in 1999, up from $2.5 billion in 1995. Most of that increase is attributable to the census, which causes a jump in spending on federal statistics every 10 years. Excluding work on the 2000 census, federal spending on statistics in 1999 totaled $3.1 billion, an increase of $0.6 billion over the 1995 level. OMB's report *Statistical Programs of the United States Government, 2001,* shows that 13 federal departments and nine independent agencies have such programs. However, those in just four departments—Commerce, Health and Human Services (HHS), Labor, and Agriculture—account for the bulk of government spending on statistical programs.

The Department of Commerce. Commerce, which accounted for about one-third of all federal spending on statistics in 1999, is the government's major producer of information on population and the economy. The department's Bureau of the Census conducts the decennial census and, between those censuses, makes

estimates of the populations of states, counties, and other places. The bureau also conducts periodic censuses of manufacturing, construction, and other businesses. The Bureau of Economic Analysis develops the national income and product accounts, the basic measure of the level of economic activity in the United States. The department also collects data on foreign investment, trade, and the weather.

The Department of Health and Human Services. HHS produces statistics on the nation's health and health care financing. The Centers for Disease Control and Prevention and the National Institutes of Health produce statistics on the nature and extent of health and illness. The department's Agency for Healthcare Research and Quality produces information on the cost, quality, and other aspects of the health care system. Its Health Care Financing Administration develops health care spending statistics for the United States; processes claims for 39 million Medicare beneficiaries; and collects statistical data on costs, quality of care, and access to health care services for Medicare and Medicaid beneficiaries.

The Department of Labor. The Labor Department's Bureau of Labor Statistics (BLS) produces statistics on employment, unemployment, consumer expenditures, prices, and living conditions, among other things. The department also produces other information on the labor market (for example, wages in selected industries) and data on workplace accidents.

The Department of Agriculture. USDA's National Agricultural Statistics Service produces data on farm acreage, crop yields, livestock inventories, chemical use on farms, prices for farm products, world agricultural production, and other agricultural concerns. The Economic Research Service provides economic analyses of issues related to agriculture, food, the environment, and rural development. The department also conducts soil surveys, prepares water supply forecasts, and inventories forest lands.

Major Programs in Other Agencies. The Department of Transportation produces information on transportation systems, aviation safety, fuel consumption, vehicle accidents, and other transportation matters. Data on crime, prisons, and immigration come from the Department of Justice. The Department of Education serves as the federal source of information on primary and secondary schools and postsecondary institutions. The Internal Revenue Service produces annual data on income, taxes, and other matters. Extensive data on energy and natural resources is available from the Departments of Energy and the Interior. Finally, the Environmental Protection Agency produces information on the quality of air and drinking water and on hazardous substances in the environment.

Increasing Support for Federal Statistical Programs

Agencies across government are engaged in extensive efforts to keep statistical information timely, accessible, and relevant in a rapidly changing world. If the Congress decides to increase its support of such efforts, it could try to accelerate initiatives to make information more available, to improve the accuracy and relevance of existing data, or to collect new types of data. Again, some of the examples below include dollar figures to suggest the magnitudes of possible investments.

Expanding the Availability of and Access to Information. Information has little value if users cannot find and get timely access to it. In recent years, many agencies and the government as a whole have focused on the Internet as a means of expanding access to federal information. Under the guidance of the Interagency Council on Statistical Policy, for example, major statistical agencies worked to establish a central Web site (www.fedstats.gov) from which users can access statistics from many different agencies. The agencies continue to expand and improve that site. Currently, they plan to add the capability to do customized searches for information and to broaden the scope of the data covered. Individual agencies are working on similar efforts on their own Web sites. The Environmental Protection Agency, for example, recently established a single on-line source of information on a wide variety of environmental issues. Users can find information there on air quality in specific areas, water safety at beaches, and pollution-prevention techniques. In a similar fashion, the Bureau of Justice Statistics at the Department of Justice is attempting make the crime data it puts on the Internet more accessible, the Internal Revenue

Service is expanding the amount of data available electronically through its home page, and the Department of Transportation is attempting to upgrade the technology used to respond to requests for traffic safety information.

Strengthening Existing Information. To be useful, data need to be accurate and focused on the uses to which they will be put. Statistical agencies have under way a broad range of efforts to improve the information they produce and to keep abreast of new methods and developments. The BLS has nearly completed a multiyear effort to update the consumer price index (CPI), the nation's primary source of information on changes in consumer prices, and incorporate information from a larger sample. Consistent with recommendations of an advisory commission, new indexes will consider changes in the quality of products and in consumers' selections as prices change.[67] The BLS also plans a number of improvements to the producer price index, the measure of prices in the business sector, including expanding the index to cover the construction industry and increasing the coverage of businesses that provide services. The Bureau of the Census continues efforts to expand the number of communities covered by the American Community Survey, which provides data on economic, demographic, and other characteristics of local communities. That survey could allow the government to allocate nearly $200 billion in federal resources annually on the basis of more timely and accurate information. (The Congress did not provide the $3.4 million increase the President requested for the survey in 2001.) In accord with the recommendations of the National Research Council, the bureau also plans to improve its measures of economic well-being and poverty, in part by accounting for the full range of assistance available to the poor. Improved measures would permit decisionmakers to better monitor the effectiveness of programs to improve economic well-being. And EPA would like to extend its surveys of harmful emissions—for example, by requiring monitoring of urban air quality at additional times of the day.

67. Advisory Commission to Study the Consumer Price Index, *Toward a More Accurate Measure of the Cost of Living: Final Report to the Senate Finance Committee* (December 4, 1996).

Collecting New Information. As new developments occur and new issues arise, the government may need to collect new information. For example, the Census Bureau received an additional $8.5 million in 2001 to collect data on electronic commerce, which has become an important part of the U.S. economy and been a significant factor in the recent surge in economic productivity. That data will allow better measurement of spending on personal consumption and other key activities and support efforts by the Bureau of Economic Analysis to maintain accurate national economic accounts; the information will also help government decisionmakers to assess policy issues such as whether to allow taxation of sales made over the Internet. Also, the BLS received $4.3 million for 2001 to support a survey of how Americans spend their time. That survey will produce previously unavailable information on the relationship between public policies and individuals' behavior. For example, as large numbers of baby boomers begin retirement, how they choose to spend their time in work or leisure will have implications for public policies on transportation and retirement programs. But the Congress rejected a request for $1.3 million in 2001 to allow the Bureau of Justice Statistics to measure crimes against the disabled and hate crimes.

Should the Federal Government Spend More on Statistics?

Federal data are critical. Citizens, workers, academics, businesses, and governments at all levels use federal statistics in planning, monitoring trends, making decisions, and identifying and solving problems. Federal data on the economy, for example, affect the uses to which billions in public and private resources are put and are critical to decisions made by the Congress and the President. Data on local communities and industries from the Bureau of the Census and the Bureau of Economic Analysis can influence companies' plans for expansion into new locations, help banks decide on the wisdom of loans to certain types of businesses, and determine how billions of dollars in federal assistance are distributed among localities. The CPI is used in some contracts to determine allowable increases in prices, in Social Security to determine annual increases in benefits, and in some employee pay and benefit plans to determine increases in compensation.

Other federal data also help guide decisions and resources. Federal transportation data help in planning highways, airports, and other transportation facilities. Good data on traffic safety help the government and communities plan responses to reduce traffic fatalities, which are the nation's third leading cause of death. Federal information on disease helps the nation prevent illness and find cures. Federal data on education help in assessing the success of the nation's schools.

Supporters of increased funding for federal statistical programs argue that the many important uses to which such information is put make the maintenance and improvement of statistical work a critical federal responsibility.[68] In their view, even small investments in improvements to economic and other data can result in significant contributions to the economy and to well-being by helping to ensure that resources are directed toward their best use. Supporters also argue that government is uniquely positioned to collect and disseminate data because of the reach and breadth of its activities. In addition, some feel that entrusting to government the task of gathering information helps ensure the accuracy and fairness of the data.

Economists and others have warned, in particular, about the lack of funding for economic statistics. Many warn of serious implications for the nation if poor data mislead decisionmakers in business and government about the course of the economy, inflation, wages, and other important economic factors. Proponents point out that many improvements, particularly in economic statistics, would not be expensive or increase reporting burdens significantly. For example, if firms had to report only slightly more detail about withheld taxes, analysts would be much better able to understand and forecast revenues in the near term. Such detail would also provide more useful information about the current state of the economy and provide some insight into recent changes in wages and income distribution.

Critics worry about burdening private firms and others with additional requirements to provide data and information. Some who oppose more funding believe that the rights and privacy of citizens are put at risk when government holds a great deal of information. They point, for example, to the misuses of information collected by the Internal Revenue Service. They also view data collection as leading to the expansion of government. According to that view, data collection is a critical first step leading to more regulation and other governmental activity. Such critics contend that localities and private firms will find the resources to produce the data they need.

Other critics of increased funding for statistics worry that such funds will produce more data but not necessarily better data. Some call for a central statistical agency to ensure, among other things, a better coordinated and thus more efficient federal statistical effort. While acknowledging that some statistical programs, particularly those covering the economy, have received only modest increases in funding in recent years, they note a large increase in total funding for statistical programs. They suggest that some needs for more data might be met by reassessing priorities in information and diverting funds from less important efforts or by contracting out parts of statistical operations—for example, the processing and dissemination of information.

68. See, for example, Michael Boskin, *Some Thoughts on Improving Economic Statistics to Make Them More Relevant in the Information Age* (prepared for the Joint Economic Committee, United States Congress, October 1997). The report examines problems with the nation's economic statistics and opportunities to improve their usefulness to policymakers.

Chapter Four

Options for National Defense

The advent of the Bush Administration has sharpened the debate over military programs and the defense budget. Pentagon leaders are conducting a new Quadrennial Defense Review (QDR) that will examine the implications for military forces of the Administration's national security strategy. The results of that review are scheduled to go to the Congress in September. Meanwhile, the Secretary of Defense has initiated other reviews of defense programs—including major acquisition programs—and the defense budget.

This chapter summarizes some of the major defense issues likely to be debated during the 107th Congress and the arguments on both sides of those issues. It also presents various options for change that reflect the proposals of advocates from different parts of the policy spectrum, together with the advantages, disadvantages, and budgetary impact of those options. As the introduction to this volume noted, the Congressional Budget Office is a nonpartisan support agency of the Congress and does not make recommendations about policy. Thus, CBO neither endorses nor opposes any of these options.

Spending for national defense is included in function 050 of the federal budget (see Table 3). Although about 95 percent of that spending falls within

Table 3.
Federal Spending for Budget Function 050, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimated 2001
Budget Authority (Discretionary)	303.9	332.2	299.1	276.1	262.2	262.9	265.0	266.2	272.4	288.1	301.2	311.1
Outlays												
Discretionary	300.1	319.7	302.6	292.4	282.3	273.6	266.0	271.7	270.2	275.5	295.0	301.4
Mandatory	-0.8	-46.4	-4.3	-1.3	-0.6	-1.5	-0.2	-1.2	-1.8	-0.6	-0.5	-0.8
Total	299.3	273.3	298.4	291.1	281.6	272.1	265.8	270.5	268.5	274.9	294.5	300.5
Memorandum:												
Annual Percentage Change in Discretionary Outlays	n.a.	6.5	-5.3	-3.4	-3.5	-3.1	-2.8	2.1	-0.5	1.9	7.1	2.2

SOURCE: Congressional Budget Office.

NOTE: n.a. = not applicable.

the Department of Defense (DoD), function 050 also includes the atomic energy activities of the Department of Energy and smaller amounts in the budgets of other federal departments and agencies. CBO estimates that discretionary outlays for function 050 will total about $301 billion in 2001. (Mandatory spending in that function is negative primarily because of offsetting receipts from the sale of excess military equipment. Offsetting receipts were unusually large in 1991 because of reimbursements by foreign governments for some of the costs of the Persian Gulf War.) By CBO's estimate, 2001 will mark the third straight year in which defense spending has grown in nominal terms (not accounting for inflation).

Introduction

Developing an appropriate budget for defense depends on addressing far-reaching questions about threats, strategy, and forces. In reviewing the new Administration's plans for defense, Members of Congress are likely to focus on these questions:

o Is the Administration's national security strategy an appropriate response to likely threats to U.S. security?

o Will the military forces and modernization programs planned by DoD adequately support that strategy?

o Will the budget that the Administration proposes be sufficient to maintain those forces and carry out those plans?

All three of those questions are useful for evaluating U.S. military forces and the funding necessary to maintain them.

Current Threats

The U.S. military today has no peer. Some Russian and Chinese conventional weapons and forces may equal those of the United States in number. In a few cases, Russian or Chinese forces may even be numerically superior. But the capabilities of the U.S. military far surpass those of other nations if factors such as training, readiness for combat, sophistication of weapons, and availability of linked communications and intelligence networks are taken into account.

Much of today's defense planning focuses on the threats posed by certain regional powers that are antagonistic to U.S. interests. Iran, Iraq, and North Korea are the nations of greatest concern, although they have substantially fewer forces than either Russia or China, let alone the United States. Their forces are also no match for U.S. troops and equipment in many of the other dimensions of combat capability noted above.

More worrisome, according to the intelligence community and many military leaders, may be unconventional threats—such as nuclear, biological, and chemical weapons, which can have enormous destructive capacity. The regional powers of concern to U.S. analysts may be developing or expanding their stocks of such weapons. Moreover, threats to use unconventional weapons could come from hostile individuals or groups as well as nations. The United States' superior conventional forces and weapons would be of limited value in a regional war if an enemy's threat to retaliate with weapons of mass destruction deterred the United States from using its conventional arms. Adversaries could also target the Internet and seek to disrupt commercial and military computer networks, on which the United States and DoD increasingly rely. Such threats are difficult to counter, in part because most current U.S. weapons are focused on more conventional threats.

National Security Strategy

In recent years, the national security strategy has rested on a policy of engagement in the world's affairs—in peacetime as well as during crises. Consequently, that strategy has directed the U.S. military to be ready to undertake activities ranging from limited humanitarian missions to full military campaigns against capable, well-equipped regional foes.

The makeup of today's combat forces is driven by a goal of being ready to fight two regional wars occurring at about the same time. That objective determines the size and structure of most types of

forces. But the recent national security strategy has also expanded the military's involvement in smaller-scale contingency operations during peacetime (operations such as peacekeeping, peace enforcement, humanitarian assistance, and hostage rescue).[1] That part of the strategy has added to the military's operating costs in peacetime and increased the demands on military personnel—both through additional deployments and through greater need for some types of forces specifically associated with those operations, such as civil affairs personnel and military police.

Another factor that affects U.S. military actions and budgets is the desire of decisionmakers to minimize casualties, a desire that has increased over the past several decades. That attitude may affect the nature of the forces that military leaders use—for example, air rather than ground forces. It may also lead to increases in the number of forces that DoD maintains, because, the military argues, greater U.S. superiority can shorten wars and reduce U.S. casualties.

Besides meeting current demands, the national security strategy directs that the services prepare for the demands of the future. The plans that DoD develops for that purpose attempt to consider the evolution of military technology, the proliferation of more-sophisticated weapons (including weapons of mass destruction and the means to deliver them), and the possible emergence of a nation with military capabilities that rival those of the United States. DoD has used those considerations to justify its plans for modernization and its development and procurement of new weapons.

Concerns About Military Readiness

The chiefs of the military services have testified on numerous occasions to the Congress about the difficulties they face in keeping their troops ready for combat. They argue that the recent pace of peacetime operations, coupled with reductions in the number of forces, is hurting readiness for conventional war. The service chiefs cite four main concerns with readiness.

- *Recruitment and Retention.* The military is having trouble retaining experienced officers and enlisted personnel in certain specialties, such as pilots and crew chiefs in the Air Force.

- *Material Readiness.* Mission-capable rates (the percentages of equipment ready for action) have declined for many units, partly because of shortages of spare parts.

- *Overseas Deployments.* According to the service chiefs, the pace of overseas deployments was significantly greater in the 1990s than during the Cold War era. That increase has placed particular stress on "high-demand/low-density" units. More frequent deployments have also necessitated the call-up of reserve units—entire reserve divisions have been deployed to peacekeeping missions in Bosnia—as well as the use of individual volunteer reservists to support those missions.

- *Quality of Life.* Several factors have had an adverse impact on the quality of life for military families, the chiefs say. One is increased time away from home as a result of more frequent and longer deployments. Another is aging and poorly maintained facilities and family housing units for military personnel.

Today, the level of funding for operation and maintenance—the type of appropriation that contributes most directly to readiness by paying for training, fuel, and maintenance depots—is actually higher per active-duty service member than it was when the post-Cold War force reductions began. Nonetheless, readiness may still be suffering for a number of reasons. First, DoD's involvement in smaller-scale contingency operations may mean large hidden costs in terms of wear and tear on equipment. Second, today's smaller force may require higher spending per capita than a larger force. (For example, certain costs, such as satellite reconnaissance, are fixed and do not fall with the number of active-duty personnel.) Third, aging equipment may be adding to the cost of maintenance. And fourth, DoD may have been unable or unwilling to give up costly business practices

1. Smaller-scale contingencies (a term used by the Office of the Secretary of Defense) correspond to what CBO and other military analysts previously referred to as operations other than war.

and facilities from the Cold War era. For example, it has not reduced its base structure commensurate with the reduction in forces and personnel. DoD estimates that by 2003, its base structure will be 21 percent smaller than in 1989, whereas its forces will be 36 percent smaller. Even after four rounds of base realignments and closures—the last begun in 1995—DoD retains a system of equipment maintenance depots with much greater capacity than it requires. In addition, it keeps a peacetime medical establishment far greater than its wartime requirements.

Responses by the Clinton Administration and the 106th Congress

Responding to the concerns of the service chiefs, the Clinton Administration in December 1998 added $112 billion to its defense plan for fiscal years 2000 through 2005. (Of that $112 billion, $84 billion represented a real increase from the previous year's plan; the rest represented an increase made possible by lower projected inflation.) That funding was added to enable DoD to boost compensation for service members, provide more support for both readiness and modernization priorities, and fund the expected costs of supporting U.S. forces deployed to Bosnia and the Persian Gulf region.

The 106th Congress also responded to concerns about the military. It increased defense appropriations above the Administration's requests for both fiscal years 2000 and 2001. For 2000, the Congressional budget resolution set the ceiling for budget function 050 at $290.0 billion in discretionary budget authority—some $8.3 billion more than the Administration had requested. The final defense appropriations for 2000, including supplemental funding, totaled $301.2 billion.[2] For 2001, the Administration requested $306.3 billion for national defense. The Congress increased that amount by some $4.8 billion, to $311.1 billion.

The Congress had three main priorities in providing that level of funding. First and foremost was ensuring the ability of U.S. forces to meet their commitments worldwide. To further that goal, the Congress increased funds directed at supporting the readiness of personnel, modernizing forces, and researching and developing new weapon systems.

A second Congressional goal was to counter future threats to national security. Resources were added to combat emerging threats—such as the proliferation of nuclear, chemical, and biological weapons and the means to deliver those weapons against U.S. allies or the United States itself.

The Congress's third major goal was to provide service members with a compensation package that would enable DoD to meet its requirements for personnel. The Congress provided for a series of pay raises that exceed the projected rate of increase in private-sector wages. It also increased retirement benefits for military personnel who entered the armed forces after 1986. Finally, the Congress made significant changes in the military health care system to improve benefits and reduce costs for its users, especially older military retirees and their families.

The Structure of This Chapter

Recent Congressional actions by no means represent the last word on the U.S. defense budget. The major issues likely to be debated by the 107th Congress fall into three main categories:

- Sizing and shaping military forces to match their peacetime and wartime missions;
- Modernizing weapon systems and countering emerging threats; and
- Providing the personnel, equipment, and facilities that the military needs.

Each of those categories is the subject of a section in this chapter. The sections summarize the issues and present various options for change. Each option provides general background information, discusses the pros and cons of the change, and estimates the savings or costs during the 10-year period from

2. Appropriations for the budget function for national defense are provided mainly through three appropriation acts: the ones for national defense, military construction, and energy and water (which provides funds for atomic energy activities of the Department of Energy).

2002 to 2011. (As noted above, the inclusion or exclusion of a specific option does not represent an endorsement or rejection of that option by CBO.)

Sizing and Shaping U.S. Forces to Match Their Missions

In today's world, the U.S. military faces two main tasks: preparing for war against a major regional power and participating in smaller-scale contingency operations. This section presents options for reshaping military forces to better match those tasks. The dramatic reduction in forces that occurred during the 1990s makes determining the best size and shape of the forces that remain a paramount concern for the military.

In 1989, the Department of Defense had 2.2 million active-duty military personnel, 1.2 million selected reserve personnel organized into units, and 1.1 million civilians working for the military departments and defense agencies. After the collapse of the Soviet Union and the Warsaw Pact, DoD cut its active-duty personnel by 745,000, or 35 percent. Moreover, between 1989 and 2000, the Army went from 18 active divisions to 10, the number of battle force ships in the Navy declined from 566 to 316, and the Air Force reduced the number of tactical-fighter-wing equivalents in its active forces from 25 to 13 (see Table 4).

The reserve components of the services also experienced reductions over that period. Their overall cut amounted to 26 percent between 1989 and 2000, but among the individual reserve components, the reductions varied greatly. The Army Reserve and Navy Reserve saw the largest cuts—36 percent and 40 percent, respectively. The Army National Guard was reduced by 23 percent between 1989 and 2000. The other reserve components were cut by much smaller percentages during that period: 9 percent for the Marine Corps Reserve, 8 percent for the Air National Guard, and 11 percent for the Air Force Reserve. Those three reserve components are arguably the ones most highly valued by their service leaders and the best equipped and most ready for combat.

To some extent, each military department attempted to shape its post-Cold War force to the new security environment by making selective cuts to its combat forces. The Air Force, for example, reduced tactical (short-range) fighter forces by more than 45 percent but made smaller reductions in its airlift forces (which transport troops and equipment). The Navy cut the number of attack submarines by almost 47 percent but the number of surface combat ships by a much lower percentage. Even so, some critics argue that the remaining forces are still oriented toward fighting a major conflict from prepared positions and bases rather than being the mobile forces required for today's unstable world. As a result, many military analysts maintain that more radical changes are necessary in the way forces are organized for deployment and combat.

Conventional Conflict Against a Major Regional Power

The basic scenario that U.S. military planners have adopted for shaping conventional forces today is a conflict with a major regional power. Although the standard examples of such a power are Iraq and North Korea, planners assume that major wars that might require the United States to use force could erupt in other regions or against other powers. The Clinton Administration's 1993 Bottom-Up Review and 1997 Quadrennial Defense Review both assumed that U.S. conventional forces (with some help from regional allies) must be sized to fight such wars occurring "in two theaters in overlapping time frames."[3] The 1997 QDR also assumed that some U.S. forces would be engaged in other missions, such as peacekeeping, and might need to extricate themselves from those missions and regroup before taking part in a major theater war.

The 1997 QDR defined the requirements for conventional forces as including 10 active Army divisions; three active Marine expeditionary forces (MEFs), each consisting of a division, an air wing, and support and command elements; 12 aircraft carrier battle groups and 12 amphibious ready groups in the Navy; and at least 12 active Air Force fighter

3. Secretary of Defense William S. Cohen, *Report of the Quadrennial Defense Review* (May 1997), p. 31.

wings (or their equivalents). Requirements for reserve forces included about 40 Army brigades (some of which are organized into eight divisions), one MEF, one of the 12 aircraft carriers, and eight wings of Air Force tactical fighters. A significant part of the Air Force's and Navy's long-range airlift aircraft and sealift ships are also in the reserves.

According to the 1997 QDR, various types of units are not numerous enough to support two overlapping major theater wars. Those units include long-range bombers, stealth tactical bombers (F-117s), electronic warfare aircraft, airborne warning and control aircraft, Joint Surveillance Target Attack Radar System aircraft, special-operations forces, and some amphibious assault forces. Planners assume that those assets could shift from one theater to the other as the situation demanded.

The 1997 QDR conducted a more thorough review of force requirements than its predecessor, the Bottom-Up Review, but it too received criticism. Some critics felt that its force cuts were far smaller than the current national security situation permitted.

Table 4.
U.S. Military Forces in Selected Fiscal Years, 1989-2000

	1989	1993	1995	1997	2000
Strategic Forces					
Land-Based Intercontinental Ballistic Missiles	1,000	787	585	580	550
Heavy Bombers	263	194	140	126	152
Submarine-Launched Ballistic Missiles	576	408	360	408	432
Conventional Forces					
Land Forces					
Army divisions[a]					
Active	18	14	12	10	10
Reserve	10	8	8	8	8
Marine Corps divisions[b]	4	4	4	4	4
Naval Forces					
Battle force ships	566	435	372	354	316
Aircraft carriers					
Active	15	13	11	11	12
Reserve	1	0	1	1	0
Aviation Forces					
Air Force fighter-wing equivalents					
Active	25	16	13	13	13
Reserve	12	11	8	7	8
Navy carrier air wings					
Active	13	11	10	10	10
Reserve	2	2	1	1	1
Airlift aircraft					
Intertheater	401	382	374	345	308
Intratheater	492	380	428	430	425

SOURCE: Congressional Budget Office using data from Office of the Secretary of Defense, *Annual Report to the President and the Congress* (various years).

a. Excludes separate brigades.

b. Includes one reserve Marine Corps division.

They argued that a different planning scenario—say, one major theater war and one smaller-scale contingency operation—would have allowed much larger reductions in military and civilian personnel. Other critics argued that the military had already been cut too far and that the 1997 QDR failed to analyze alternatives that would add to forces.

Some of the options below would increase forces that may be limiting factors in major theater wars, that provide U.S. presence overseas, or that are ready to respond to crises. Other options would reduce certain forces—both active and reserve—that some critics believe are larger than needed to deal with future threats.

Option 050-01
Increase the Attack Submarine Force to 68

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	2,640	190
2003	3,870	720
2004	3,080	1,460
2005	2,690	2,040
2006	2,810	2,520
2002-2006	15,090	6,930
2002-2011	21,050	18,000

RELATED CBO PUBLICATION:

Budgeting for Naval Forces: Structuring Tomorrow's Navy at Today's Funding Level (Study), October 2000.

In the 1997 Quadrennial Defense Review, then Secretary of Defense William Cohen called for reducing the Navy's force of attack submarines to 50. According to some Navy officials, the size of that force is being determined not by operational requirements but by budget constraints. Indeed, Navy officials say today's force of about 56 submarines is already overworked: the number of intelligence and surveillance missions, which are the principal job of submarines in peacetime, has doubled since the end of the Cold War, while the size of the force has fallen by 40 percent. As a result, the Navy's leadership argues, there are no longer enough submarines to perform all of the missions required of them. Moreover, according to Navy officials, the intelligence missions that submarines perform generally cannot be carried out by any other U.S. intelligence-gathering asset.

This option would increase the attack submarine force to 68 and maintain it at that size indefinitely—at a cost of $2.6 billion in budget authority in 2002 and $21 billion over 10 years. In a recently released study, the Joint Chiefs of Staff asserted that the Navy needs a fleet of 68 submarines by 2015 to fulfill the peacetime and wartime tasks that the unified commands have set for attack submarines.

To achieve the force reduction mandated by the 1997 QDR, the Navy has been deactivating submarines before the end of their useful service life, which is 30 to 33 years. Under its current schedule, seven Los Angeles class submarines would be deactivated between 2001 and 2008. If instead the Navy refueled those submarines and kept them until they reached 33 years of age, the Navy could retain a larger force.

Nevertheless, to reach a force of 68, the Navy would also need to build three or four submarines a year beginning in 2003 and continue at that pace beyond 2011. (That would give the Navy 68 attack submarines by 2012.) By contrast, the Navy's budget request for 2001 envisioned building one submarine a year between 2001 and 2006 and two or three a year between 2007 and 2011. Building three or four submarines a year would compensate for the decommissioning of Los Angeles class submarines as they reached the end of their service life. (Those submarines were funded during the 1970s and 1980s at rates of two to four a year.) In the very long run, to sustain a force of about 68 submarines, the Navy would need to build an average of two and one-quarter submarines a year.

Although this option would allow the Navy to meet its requirements, the costs would be high. Compared with the Navy's current plans, this option would buy an additional 12 Virginia class submarines

between 2002 and 2011 at an added cost of $19 billion in procurement spending. (Option 050-29, by contrast, would reduce procurement of the Virginia class submarine.) Refueling three Los Angeles class submarines would cost another $1 billion (CBO assumed that the other four Los Angeles class subs would be refueled with funds already programmed for that purpose). Operating costs for the additional submarines of both classes would total another $1.2 billion through 2011.

Not everyone would agree that the Navy needs a fleet of 68 submarines. Besides the 1997 Quadrennial Defense Review, other Department of Defense studies with different priorities and planning factors have concluded that a smaller force would be sufficient. The 1993 Bottom-Up Review stated that 45 to 55 submarines were enough to meet peacetime and wartime requirements, although it qualified that finding by saying the smaller number might be too low for peacetime. However, the report did not specify how it determined those force levels. The 1997 QDR, which argued that the submarine force could shrink because of reduced requirements, also did not specify which requirements were being reduced.

Other analysts have argued that the attack submarine force could be even smaller than the level set by the 1997 QDR. For example, according to a study by the Cato Institute, the United States needs only 25 submarines because of reduced threats in the post-Cold War period. That study argued in favor of substantially curtailing the fleet's mission of overseas presence and not assigning attack submarines to support aircraft carrier battle groups. □

Option 050-02
Buy More Amphibious Ships

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	0	0
2003	0	0
2004	0	0
2005	1,730	120
2006	1,760	420
2002-2006	3,490	540
2002-2011	6,650	5,270

RELATED CBO PUBLICATION:

Budgeting for Naval Forces: Structuring Tomorrow's Navy at Today's Funding Level (Study), October 2000.

One of the Marine Corps's stated requirements is for enough transport capacity (or lift) in the Navy's amphibious warfare fleet to carry the assault echelons of three Marine expeditionary brigades (MEBs). According to the Corps, that amount of lift would allow Marines to perform forcible-entry operations in two widely separated theaters at the same time. Fiscal constraints have kept the Navy's amphibious fleet short of that goal, however. In their current plans, the Congress and the Department of Defense are providing funds for an amphibious fleet of 36 ships—only enough to transport 2.5 MEBs.

This option would make up the difference by buying seven additional ships. Current plans would buy eight LPD-17 amphibious transport docks from 2001 through 2004 at a rate of two per year. This option would continue purchases at the same rate for a few more years, buying another seven LPD-17s after 2004. The option would cost a total of about $7 billion in budget authority over the next 10 years, virtually all of it coming from building the additional ships. Eventually, the costs to operate the seven extra ships would amount to about $400 million per year in today's dollars, but almost all of those costs would not occur until after 2011.

According to the Marine Corps, the nearly 14,000 troops of a Marine expeditionary brigade are the smallest force capable of conducting a forcible-entry operation. The 3-MEB capability could allow the Marines to conduct one such operation in, say, the South Pacific and another in the Mediterranean region at the same time. (Under normal conditions, a 3-MEB capability would be enough to transport MEBs for operations in only two regions because some of the amphibious fleet would be undergoing

repairs.) Alternatively, those MEBs could compose the assault echelon of a Marine expeditionary force, which could conduct a large amphibious assault in a major theater war.

The Navy's plan for an amphibious fleet of 36 ships envisions having 12 large-deck amphibious assault ships of the LHA or LHD type, 12 dock landing ships (LSDs), and 12 amphibious transport docks (LPDs). The Navy is currently building the new LPD-17 class of amphibious transport dock. Once those ships are completed and delivered late in the next decade, the amphibious fleet will have a 2.5-MEB lift capability. (The current lift capability is less than 2 MEBs.) In addition, the Navy plans to replace its LHA amphibious assault ships, which are nearing the end of their useful service life, with a variant of the LHD starting in 2005.

Lift capability for Marine expeditionary brigades can be broken down into five components: the number of troops that can be carried, the number of spots for vehicles, the cargo capacity, the number of vertical take-off and landing spots, and the number of landing-craft spots. The 36-ship amphibious force will have enough cargo capacity, vertical take-off and landing spots, and landing-craft spots to meet the 3-MEB requirement. The shortfall is in the numbers of troops and vehicle spots. Seven additional LPD-17s could carry enough troops and vehicles to fulfill the 3-MEB requirement.

The primary advantage of this option is that it would help the military adapt to changing conditions. In the post-Cold War era, the United States has conducted only one major theater war (the Gulf War) but several small-scale, low-intensity operations, such as those in Haiti, Somalia, and Liberia. If that trend continues, the United States may be making much greater use of the Marine Corps. The Corps's mobile, amphibious force structure is particularly well suited for smaller, quick-response operations. In addition, the Navy's doctrine statement, *Forward . . . From the Sea,* argues that the United States is most likely to be involved in relatively small conflicts along the world's coastal regions—precisely the kind of expeditionary warfare that the Marine Corps emphasizes. Thus, being able to put a crisis-response force in two theaters at the same time could be very useful. Moreover, although the United States has not conducted a large amphibious assault since the Korean War, a 3-MEB lift capability would give it the ability to do so again if necessary.

Critics of this option might argue that the additional ships are unnecessary and that even the goal of a 2.5-MEB lift capability is too high. Since the end of the Korean War, most Marine Corps operations have been conducted by Marine expeditionary units (MEUs) of 2,800 troops or less. One MEU can be carried by three ships (usually an LHA or LHD, an LSD, and an LPD), so with 36 ships, the Navy would have enough amphibious lift to deploy 12 MEUs, or about 34,000 troops. Moreover, in peacetime, three MEUs are always kept deployed overseas. Thus, critics could argue, the current amphibious fleet is more than large enough for most operations that the Marine Corps is likely to conduct. And in a large war, the difference between transporting 2.5 or 3 MEBs would probably not matter—either force would eventually require substantial support from the Army and Air Force. □

Option 050-03
Preposition Equipment for Bombers at Forward Bases

The Air Force has spent a great deal of money to store ("preposition") equipment for its short-range combat aircraft on board ships and at storage sites around the world for use during a conflict. But it has not done anything as extensive for its bomber force. According to official analyses such as the Department of Defense's *Heavy Bomber Force Study* and the 1999 *U.S. Air Force White Paper on Long Range Bombers*, in a regional war that occurred without warning, bombers could play a crucial role during the earliest phase—before the United States had deployed its ground and short-range air forces. Current plans call for bombers to operate from the United States during the early days or weeks of a war. But the very long transit times from the United States to many likely theaters would allow each bomber to make only about one sortie every three days.

This option would buy enough equipment to support 52 bombers and preposition it at two forward

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	322	58
2003	253	180
2004	272	239
2005	340	271
2006	347	310
2002-2006	1,534	1,058
2002-2011	1,787	1,770

RELATED CBO PUBLICATIONS:

Options for Enhancing the Bomber Force (Paper), July 1995.

Moving U.S. Forces: Options for Strategic Mobility (Study), February 1997.

bases: the islands of Guam in the Pacific and Diego Garcia in the Indian Ocean. (Those bombers would be 16 B-2s, 18 B-1Bs, and 18 B-52Hs.) Buying and prepositioning the equipment would cost a total of about $1.8 billion in budget authority through 2011, including $11 million a year for maintenance.

The principal advantage of this option would be to increase military capability. With prepositioned equipment, bombers could take off from the United States, deliver their bombs in theaters in the Middle East or Asia, and then recover at one of the forward bases, where fresh crews would meet them. From those bases, the Congressional Budget Office estimates, bombers would be able to conduct roughly one sortie per day—increasing by 50 percent to 80 percent the number of weapons they could deliver in the theater during the critical first 15 days of a conflict.

Although this option would be costly, it would be at least 10 times less expensive than buying 20 additional B-2 bombers, as some analysts have proposed. It would also be more effective early in a conflict that began with very little warning—the type of conflict in which U.S. forces would be at the greatest disadvantage and bombers would be the most effective, according to DoD.

Several drawbacks weigh against those advantages. Prepositioning equipment would do nothing to increase the size of the bomber force, as some analysts have advocated. And although it would boost the capability of the force at a critical point in a conflict, it would not address other scenarios in which more bombers might be needed. Other options—such as increasing the types of weapons that bombers can carry, improving their avionics, keeping all 94 of the Air Force's B-52Hs, buying more B-2s, or buying more precision munitions—would provide improvements that would be useful in a wider range of scenarios, but in most cases at higher cost. Finally, some critics would contend that the money required for this option would be better spent improving the Air Force's ability to deploy its short-range aircraft to regional conflicts. □

Option 050-04
Buy More JSTARS and Global Hawk UAVs

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	282	51
2003	292	171
2004	326	275
2005	327	331
2006	154	327
2002-2006	1,381	1,155
2002-2011	3,068	2,737

RELATED CBO PUBLICATION:

Options for Enhancing the Department of Defense's Unmanned Aerial Vehicle Programs (Paper), September 1998.

The Joint Surveillance Target Attack Radar System is a joint Army/Air Force reconnaissance system designed to detect mobile and stationary targets on the ground and transmit their location to ground commanders and combat aircraft. The Air Force originally planned to buy 19 aircraft equipped with JSTARS, but in the 1997 Quadrennial Defense Review, the Secretary of Defense called for cutting that number to 13. Department of Defense officials said that number would provide enough radar coverage for one major theater war. If a second major war occurred at the same time, however, some of those aircraft would have to be redeployed, possibly creating gaps in coverage. In either case, the JSTARS aircraft operate at the forward edge of U.S. forces rather than far in front, limiting the risk to the 20 or more crew members who operate them. In such a position, JSTARS's radar coverage extends for only about 180 kilometers—far less than the range of many of the weapons that the services will operate under their deep-strike strategy for future warfare.

This option would restore four of the six JSTARS aircraft cut by the 1997 Quadrennial Defense Review, at a cost of $282 million in budget authority in 2002 and $2.3 billion over 10 years. (The Congress has already appropriated money for two of those planes.) To provide deeper coverage of enemy ground forces, this option would also buy 11 extra Global Hawk unmanned aerial vehicles (UAVs), another aircraft the Air Force is developing for aerial reconnaissance. The high-altitude, long-endurance Global Hawk is expected to provide the same type of radar imagery as JSTARS, although it will be less capable in terms of coverage area and several other important aspects. Buying and operating those 11 UAV systems would cost a total of about $770 million through 2011.

The radars on both JSTARS and Global Hawk incorporate a moving-target indicator and a synthetic aperture radar. The moving-target indicator detects and tracks formations of moving vehicles. Skilled analysts can often use that information to determine the size and type of the formations. Should the vehicles come to a stop and thus disappear from the moving-target indicator, the synthetic aperture radar can still be directed to provide a detailed image for commanders to rely on.

Such imagery is a valuable tool in achieving information superiority on the battlefield, as envisioned in DoD's official doctrine statement, *Joint Vision 2020*. In a major theater war, knowing what types of enemy forces are moving toward U.S. troops is crucial to attacking them with precision munitions or air power before they can engage U.S. ground forces. Similarly, in a peacekeeping operation, moving-target indicators can tell the commander whether opposing parties are moving large numbers of troops and equipment—perhaps in a way that would violate the peace.

This option would improve the U.S. military's capability for aerial reconnaissance. According to the Air Force, 19 JSTARS aircraft are enough to provide coverage for two major theater wars. In addition, the unmanned Global Hawks would be advantageous in situations in which U.S. air and ground commanders needed to collect intelligence with a moving-target indicator far beyond the forward line of U.S. troops. If the unmanned aerial vehicle was shot down during such a mission, no lives would be put at risk.

Critics of this option could point out that JSTARS has an older airframe and has suffered from problems integrating its radar and command-and-control systems with that frame. Putting a cheaper system into a smaller, more modern aircraft (such as a business jet) might be more cost-effective. In addition, using Global Hawks in the way that this option envisions would pose some technical challenges associated with transmitting large amounts of data to ground stations for processing. That could add even more risk to a program that is already technologically complicated. □

Option 050-05 Increase the Aircraft Carrier Fleet to 14

Today's Navy includes 12 aircraft carriers. That size fleet—recommended in the 1993 Bottom-Up Review (BUR)—represented a fiscal compromise between 10 carriers, the number needed to conduct two nearly simultaneous major theater wars, and 15, the number

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	210	0
2003	850	30
2004	4,860	190
2005	0	640
2006	280	1,090
2002-2006	6,200	1,950
2002-2011	25,850	16,720

RELATED CBO PUBLICATIONS:

Budgeting for Naval Forces: Structuring Tomorrow's Navy at Today's Funding Level (Study), October 2000.

Improving the Efficiency of Forward Presence by Aircraft Carriers (Paper), August 1996.

needed to keep at least one carrier deployed at all times in each of three theaters (the western Pacific, the Indian Ocean, and the European area—usually the Mediterranean Sea). The 1997 Quadrennial Defense Review reaffirmed the decision to limit the carrier fleet to 12. As a result of that limit, the Navy is able to keep an aircraft carrier deployed in the western Pacific year-round, but it experiences gaps totaling about two months a year in the other two areas.

This option would add two carriers and two air wings to the Navy's forces, closing almost all of the gaps in carrier presence. Specifically, it would buy a new carrier in 2004 and another in 2008, giving the Navy a force of 13 carriers in 2010 and 14 by 2015. It would also buy enough tactical aircraft to fill out the two new air wings that would be created to deploy on those carriers.

The Navy considers providing a strong overseas presence its principal peacetime mission. According to proponents, such forward presence deters potential aggressors from threatening U.S. interests, reassures friends and allies about the United States' commitment to them, and allows the military to respond to a crisis faster than if ships had to sail from U.S. ports. An aircraft carrier and its battle group are particularly well suited to provide forward presence because they can respond quickly and perform a variety of missions, such as conducting air strikes against targets on land, supporting U.S. troops that go ashore, reinforcing U.S. diplomacy, enforcing maritime sanctions or no-fly zones, or assisting in humanitarian crises. Thus, when gaps in carrier presence occur, the United States risks responding to a crisis less quickly or with a less capable force.

Although the BUR said 15 aircraft carriers were needed to provide full-time presence in three regions, a fleet of 14 would probably suffice because the Navy is implementing an incremental maintenance plan. To keep carriers ready for use during crises, it is eliminating the complex overhaul period for each ship and spreading upkeep more evenly throughout the ship's operating cycle. By doing so, the Navy can squeeze a little more deployment time out of a carrier's service life.

Closing the gaps in carrier presence would be expensive. This option would cost a total of nearly $26 billion in budget authority over the next 10 years —$12 billion to purchase the two carriers and $13 billion to buy the additional aircraft for them. This estimate also includes nearly $1 billion a year in operating costs from deploying the first additional aircraft carrier and its associated air wing. Eventually, the cost to operate both carriers would reach $2 billion a year.

This option would not buy the additional surface and support ships that accompany a carrier when it deploys. A carrier battle group notionally comprises one carrier, six surface combatants, two attack submarines, and a combat logistics ship. To provide sufficient escort for the new carriers, the Navy would have to either reduce the number of ships that accompany its existing carriers or curtail the independent operations of surface ships and attack submarines.

Not everyone would agree that the Navy should spend more money on aircraft carriers. Critics might ask why the Navy needs full-time carrier presence in Europe and the Indian Ocean. Gaps in coverage there, they might argue, could readily be filled by groups of surface ships, which almost always include ships equipped with the powerful Aegis air-defense system and Tomahawk land-attack missiles. Further-

more, the gaps in carrier presence in the European and Indian Ocean theaters presumably do not usually overlap; thus, a carrier based in the Mediterranean could respond to a crisis in the Persian Gulf relatively quickly.

Proponents of a smaller international role for the U.S. military assert that the United States maintains too much forward presence. They favor a foreign policy that does not deploy U.S. forces around the globe. They could argue that the United States had little reason to intervene in places such as Kosovo, Iraq, or Haiti—all of which involved using aircraft carriers. If the nation changed its foreign policy accordingly, the Navy would have less reason to deploy carriers overseas and could perhaps keep fewer carriers, not more (see the next option).

Other critics contend that the Navy should spend its money elsewhere. In future conflicts, they see aircraft carriers as potentially large, lucrative targets for opponents who may be armed with relatively inexpensive antiship cruise missiles or diesel-electric submarines (see option 050-26). Many of the weapon systems in a carrier battle group, such critics argue, are designed to protect the carrier rather than deliver ordnance at an enemy. Thus, it might make more sense for the Navy to invest in weapons that deliver relatively more punch for the money spent. □

Option 050-06
Reduce the Number of Aircraft Carriers to Ten and Air Wings to Nine

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-4,740	-490
2003	-1,520	-1,190
2004	-2,550	-1,740
2005	-2,060	-2,180
2006	-7,180	-2,820
2002-2006	-18,050	-8,420
2002-2011	-37,660	-32,530

RELATED CBO PUBLICATIONS:

Budgeting for Naval Forces: Structuring Tomorrow's Navy at Today's Funding Level (Study), October 2000.

Improving the Efficiency of Forward Presence by Aircraft Carriers (Paper), August 1996.

The aircraft carrier is the centerpiece of the U.S. Navy. The Clinton Administration's defense plans called for a fleet of 12 carriers. Those ships require a total of 11 active-duty air wings. (The number of active air wings is one less than the number of carriers because, at any time, one of the Navy's carriers is usually undergoing a major overhaul.) Aircraft carriers are also accompanied by a mix of surface combat ships (usually cruisers and destroyers) and submarines to defend against aircraft, ships, and subs that threaten the carriers. The surface combatants and submarines can also attack targets on land.

Since the Cold War ended, some policymakers have argued that the United States does not need a force of 12 aircraft carriers. The total capability of U.S. tactical aircraft in the Navy and Air Force will substantially exceed that of any regional power that seems potentially hostile. Moreover, the capabilities of U.S. ships are unsurpassed worldwide.

This option would retire one conventionally powered aircraft carrier immediately and one nuclear-powered carrier, the *Carl Vinson*, at the end of 2004. The Navy would then have 10 carriers. The option would also delay the Navy's new carrier, the CVNX, by 10 years. In addition, it would eliminate two air wings, leaving nine.

Compared with the Clinton Administration's planned forces, those cuts could save almost $5 billion in budget authority in 2002 and $38 billion over the next 10 years. Of that amount, $10 billion would result from canceling the Nimitz class carrier authorized last year and not buying the first CVNX carrier in 2006, as now planned. Another $2 billion would represent reduced development costs associated with postponing the CVNX. An additional $2 billion would be saved by not overhauling the *Carl Vinson* in 2005. The remaining savings would come from

reduced operating costs associated with retiring two carriers and air wings ($14 billion) and lower procurement costs from buying fewer aircraft ($10 billion). Those estimates include the cost of decommissioning the retiring ships—roughly $100 million apiece. (Cutting carriers could also reduce the number of surface combatants and submarines the Navy would need to accompany them. Thus, the Navy might save even more money on procurement and operations by not having to buy and operate as many other new ships. Conversely, the Navy might need those ships to perform other missions, such as forward presence, once it had fewer carriers.)

Although reducing the force to 10 carriers might not impair the United States' ability to fight and win two major theater wars (according to one analysis by the Department of Defense), having fewer ships would limit the Navy's ability to keep three carriers deployed overseas most of the time. That could substantially increase the strain put on the carrier force as long as policymakers continued to use aircraft carriers to respond to crises or to provide forward presence as extensively as they have in recent years. With fewer ships available, the time that those ships spent at sea could increase. The high-quality sailors the Navy needs would therefore spend more time away from their homes and families, perhaps making them less inclined to stay in the service.

The Navy might be able to maintain more forward presence with fewer carriers by bringing new crews to the ships while they were at foreign ports rather than waiting for them to return home. (The Navy does that with some minesweepers.) In addition, it could use ships other than carriers—such as large flat-deck amphibious vessels or Aegis cruisers —to help maintain U.S. presence overseas. □

Option 050-07
Use Marine Corps Squadrons to Fill Out Navy Air Wings

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-145	-113
2003	-300	-252
2004	-310	-288
2005	-452	-328
2006	-1,024	-471
2002-2006	-2,232	-1,452
2002-2011	-15,938	-13,761

RELATED CBO PUBLICATION:

A Look at Tomorrow's Tactical Air Forces (Study), January 1997.

The F/A-18 is the workhorse of both the Navy and Marine Corps fighter fleets. It has operated from the decks of aircraft carriers and in Marine air wings since the early 1980s. The Navy has a stated requirement of 34 squadrons of F/A-18s for its carrier air wings. (Each squadron consists of 12 planes.) However, it has only enough F/A-18s today to fill out 29 of those squadrons. The Marine Corps has 18 squadrons of F/A-18s to provide air support to Marine ground forces. The Navy uses five of those Marine Corps squadrons to fill out its carrier air wings.

This option would cut six of the Navy's F/A-18 squadrons—the planes in two operational carrier air wings—and use six more Marine Corps squadrons in their place. Thus, it would reduce the total number of F/A-18 squadrons from the current level of 47 to 41. That change would result in operating savings of about $300 million in budget authority per year and a total of $3.1 billion through 2011.

In addition to reducing operating costs, this option would save money on procurement because the Navy could decrease its planned purchases of the F/A-18E/F by about 185 planes (taking into account the aircraft in the six eliminated squadrons as well as the additional planes that would have been needed for maintenance and training purposes and to make up for expected attrition). Assuming those planes were eliminated from the end of the F/A-18E/F procurement program, procurement savings would amount to $133 million in 2005 and $12.8 billion over 10 years. Such savings could be especially useful since the services' planned spending on various fighter aircraft

may exceed the amount they will actually be able to devote to such purchases.

Proponents of this option would argue that the United States may not need all 47 of its current F/A-18 squadrons for the type of conflict that is probable today. If a major conflict had occurred during the Cold War, Navy, Air Force, and Marine Corps fighter aircraft would have been likely to operate in different areas. Each of the Navy's operational carriers would have needed its full complement of aircraft to conduct offensive operations and defend itself and its accompanying ships. Those carriers might well have been assigned to missions that would take them away from the flanks of NATO, where Marine Corps ground operations were likely to have taken place. Air Force fighters would have been engaged in combat with fighters of the former Soviet Union over central Europe. Thus, the Marine Corps would have had to rely on its own squadrons for air support. But today, critics say, even major theater wars will probably be sufficiently confined that aircraft carriers and their air wings will be able to remain in the theater to provide air support for the Marines.

In a major theater war, Air Force fighters might also be on hand to give air support to Marine forces. They could probably provide that support just as quickly as Marine Corps squadrons. The reason is that Marine Corps F/A-18s cannot operate from carriers that have a full complement of Navy aircraft (because the Navy planes take up most of the carriers' operating space), so some of the squadrons that are not part of carrier air wings must operate from bases on land. And if such bases are available for Marine Corps operations, they might just as easily be used by the Air Force's fighters.

In making its cuts, this option would keep Marine Corps squadrons rather than Navy squadrons. Marine Corps officers argue that they are better suited to support Marine ground units than Navy pilots are because their training encompasses not only air combat but also ground combat operations. Moreover, Marine Corps pilots already train for aircraft carrier operations. This option would preserve 41 squadrons—seven more than needed to fill the carrier air wings—for three reasons: carriers may have some excess operating capacity, the remaining planes might offset any combat losses, and some land-based F/A-18 squadrons might be useful in augmenting the capabilities of Air Force fighters.

This option would have significant drawbacks, however. It would cut a part of the military's force structure that could be highly useful in the future. Tactical aircraft have made significant contributions in recent conflicts. Moreover, fighter and attack aircraft have been heavily used in recent smaller-scale contingency operations, so cutting their number could further strain personnel and equipment in the squadrons that remained. □

Option 050-08
Reduce Air Force Tactical Forces

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-330	-256
2003	-682	-581
2004	-704	-668
2005	-726	-708
2006	-747	-735
2002-2006	-3,189	-2,948
2002-2011	-7,243	-6,951

RELATED CBO PUBLICATION:

A Look at Tomorrow's Tactical Air Forces (Study), January 1997.

The tactical fighter forces of the Air Force comprise the equivalent of about 20 combat wings—12.6 on active duty and 7.6 in the reserves. (Each tactical air wing notionally consists of 72 combat planes, in three or more squadrons, plus another 28 planes for training and maintenance purposes.) Substantial disagreement exists about whether all of those air wings are necessary, since U.S. tactical aircraft enjoy overwhelming superiority compared with the forces of any regional power that appears potentially hostile to the United States.

This option would reduce the Air Force's tactical fighter forces to 18 air wings by the end of 2002. Those cuts would lower the service's operating outlays by $256 million in 2002 and nearly $7 billion through 2011. (The funds required for fighter purchases might also be reduced; see options 050-31 and 050-32.)

Cutting the number of Air Force wings to 18 might leave the United States with an acceptable number of capable fighters. Even in terms of simple numbers, U.S. fighter inventories exceed those of any potential regional aggressor. U.S. aircraft are also more sophisticated than those of potential enemies.

However, retaining only 18 wings in the Air Force would not meet the military's current estimate of its requirements. Today's force planning assumes that the United States needs to be able to fight virtually simultaneous wars in two regions of the world—perhaps one in the Middle East and another on the Korean Peninsula. Winning two nearly simultaneous regional conflicts would require a minimum of 20 air wings, the Department of Defense has stated.

Some analysts would also argue that additional cuts in Air Force wings ignore a major lesson from the Persian Gulf War: that aerial bombardment by tactical aircraft can be very effective and may greatly accelerate the end of a war, thus reducing loss of life among U.S. ground troops. The recent conflict over Kosovo was waged chiefly by U.S. and allied air forces. Thus, future conflicts might require more air power, not less. A sizable inventory of tactical aircraft—perhaps more than would be maintained under this option—might therefore be a wise investment. (To counter the aging of the Air Force's fleet of tactical fighters, option 050-14 would buy additional current-generation aircraft while new fighters are being developed.) □

Option 050-09
Eliminate Two Army National Guard Combat Divisions

	Costs or Savings (-) (Millions of dollars) Budget Authority	Outlays
2002	-237	-208
2003	-494	-457
2004	-513	-501
2005	-532	-524
2006	-551	-543
2002-2006	-2,328	-2,233
2002-2011	-5,170	-5,047

RELATED CBO PUBLICATIONS:

Making Peace While Staying Ready for War: The Challenges of U.S. Military Participation in Peace Operations (Paper), December 1999.

Structuring the Active and Reserve Army for the 21st Century (Study), December 1997.

The Army National Guard has eight combat divisions. In 1995, the Commission on Roles and Missions of the Armed Forces reported that several of those divisions were not needed to carry out the nation's military strategy of being able to fight two nearly simultaneous major theater wars. Overall, the commission said, the Army has more than 100,000 excess combat troops that are not required for that security strategy. The commission also argued that the Guard has too many combat divisions even given its other missions, such as providing forces for rotation during wartime and supporting civil authorities at the state level.

This option would eliminate two National Guard combat divisions: one armored division and one mechanized infantry division. Doing so would reduce the Army's excess combat forces by about 35,000. The Army is planning to convert about 48,000 Guard combat troops into combat-support and combat-service-support troops (see option 050-11), but that conversion would still leave the Army with more than 50,000 extra combat troops. This option would eliminate most of that excess. (Since the Army has identified a shortage of support forces, this option would retain all of the support personnel associated with the eliminated divisions.)

The primary advantage of this option is the savings it would generate. Cutting the two divisions would save the Army an average of about $500 million a year in operating outlays over 10 years—funds that could be used to modernize the rest of the Army's active-duty and reserve forces more quickly. Eliminating those divisions could also help the Army avoid some future costs, since the equipment in the two disbanded divisions would not need to be modernized.

This option would have several disadvantages, however. First, it would reduce the number of reserve forces available as reinforcements during wartime. But how risky such a reduction would be is unclear, because analysts disagree about whether Guard combat forces could be ready to fight in time to help in a major theater war. Second, these cuts might reduce the Army's flexibility by leaving fewer reserve forces to use in peacetime missions. The Army has sent reserve combat troops to peace operations such as the long-running one in the Sinai Peninsula, and it plans to send more reservists to similar operations in the future. Third, this option would reduce the number of forces available for governors to call on to support missions in the states. □

Military Participation in Smaller-Scale Contingency Operations

The U.S. military's increasingly frequent involvement in smaller-scale contingency operations raises two key operational questions. First, are U.S. forces well structured to carry out those operations on a routine basis? And second, how does participating in such operations affect the ability of U.S. troops to carry out their primary mission of fighting and winning a conventional war? At first glance, deployments on the scale of those in Somalia, Bosnia, or Kosovo (involving 15,000 to 30,000 U.S. troops) would seem to pale in comparison with the half-million personnel the United States sent to the Gulf War or the similar numbers stationed in Vietnam for nearly 10 years. How can deployments that are so much smaller create significant stress on the military?

One part of the answer is that the forces needed for smaller-scale contingency operations are not necessarily the same types as those needed for major theater wars. Certain kinds of ground forces—combat-support and combat-service-support units such as transportation, civil affairs, and water purification units—are critical to such operations. Those special units are in much heavier demand for such operations than other types of units are. To complicate the equation, those support functions are most commonly performed by reserve units, so the few active-duty units of that type are required to deploy extremely often.

Another part of the answer may be the degree to which resources can be readily mobilized. When a nation goes to war, its military mobilizes fully. Personnel alter their expectations, accept hardships, and shelve training and education plans; at the same time, all of a military department's resources are devoted to meeting the threat to national security. But smaller-scale contingency operations are conducted under peacetime rules and processes. While the deployed units seek to accomplish their missions, the rest of the military establishment goes about its normal peacetime activities. Furthermore, the military expects to rotate personnel back home after six months or so. Conducting military operations under peacetime conditions takes a toll not only on a military department's forces but also on its budget, its supply and depot structure, and DoD's transportation system.

The options below are intended to ease some of the burden that smaller-scale contingency operations impose by adding forces or converting existing units to the types of units most in demand for such operations.

Option 050-10
Increase Staffing Levels in Military Units

At any given time, some units in all of the services have fewer people available to work than their personnel requirements specify. Some of those shortfalls are deliberate; others may reflect the difficulties of managing a large workforce with people constantly shifting among assignments. Still others oc-

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	669	584
2003	1,961	1,778
2004	3,334	3,121
2005	4,114	3,969
2006	4,241	4,187
2002-2006	14,318	13,639
2002-2011	37,566	36,693

cur simply because people are on leave, ill, or away for training or other temporary assignments. In recent years, the succession of smaller-scale contingency operations has added a new problem, especially in the Army and the Air Force: portions of units are sent overseas, often on short notice, drawing personnel from the rest of the unit and leaving it scrambling to perform its routine mission and to train effectively. In such cases, readiness can suffer, and the personnel left behind may have to work long hours.

This option would try to reduce the impact of personnel shortages on existing units by adding a total of 50,000 active-duty personnel to the military over the 2002-2004 period. Doing that would cost the Department of Defense an extra $584 million in outlays in 2002 and $36.7 billion over 10 years. However, total federal costs would be $5.7 billion lower than that over 10 years because DoD's payments for military retirement and some other personnel programs are intragovernmental transfers and therefore appear as receipts elsewhere in the budget.

Although DoD has generally maintained that planned force levels are adequate, officials from each of the services have at times expressed a desire for more personnel. Late in fiscal year 2000, three of the services appeared ready to ask formally for increases. The Army reportedly would request 15,000 to 40,000 additional personnel, the Air Force 10,000, and the Marine Corps an unspecified number. (In 1999, the outgoing Marine Corps Commandant said that his service could use another 5,000 troops.) The Navy reportedly had no plans to request more personnel, although its Secretary said in 1999 that he would like to forgo that service's remaining planned personnel cuts (at the time, about 2,000). Moreover, the Navy continues to have roughly 10,000 authorized positions in the fleet that are unfilled.

The added personnel in this option would be distributed as follows: 25,000 for the Army (an increase of about 5 percent); 10,000 each for the Navy and Air Force (increases of 3 percent); and 5,000 for the Marine Corps (an increase of 3 percent). The services would be left to decide how those additional personnel would be used. For example, they might be used to fill empty positions, provide an overstrength "cushion" for units to ease the strain of routine or unforeseen personnel shortages, or increase staffing in occupational specialties that have been in high demand for smaller-scale contingency operations.

This option's $36.7 billion price tag over 10 years reflects both the direct costs of the additional personnel and added costs for operations and support, including training at both the individual and unit levels. In addition, the estimate assumes that DoD would increase its spending on new reenlistment bonuses—at an annual cost of roughly $116 million in 2007 and beyond (see option 050-35)—so the services could increase their size without lowering standards or relying solely on new recruits. The added bonuses should help improve retention both overall and in occupations suffering from particularly severe shortages. (The option assumes that no new units would be formed, so it would have no direct effect on the quantity of weapons and other systems procured in the future.)

The strains caused by frequent deployments have been most evident in the Army and the Air Force. Traditionally, the Army has deliberately understaffed many of its operational units, providing a full complement of personnel only to those scheduled to deploy first in the case of a major theater war. For smaller-scale deployments, however, the burden of providing troops may fall on the understaffed units. (One example occurred in 1998, when the 1st Cavalry Division was ordered to send a brigade and its division headquarters to Bosnia. To fill out the deploying elements, it drew 581 personnel from the

nondeploying portions of the division as well as 166 people from elsewhere in the Army.) In 2000, the Army reversed its longstanding policy, bringing all of its divisions and some other units up to full staffing levels at the expense of other portions of the force, such as the Training and Doctrine Command and the Materiel Command.

Deployments can affect even fully staffed units, however. For example, an Air Force unit may have to send a large complement of security police and other support personnel to accompany a small portion of its combat force on an overseas deployment. In both the Army and the Air Force, training for the units left at home can suffer as experienced noncommissioned officers are sent with the deploying units.

Besides decreasing the readiness of military units, personnel shortages can affect service members' satisfaction with the military and thus, potentially, their decision whether to remain in the service. As noted above, when deployments involve parts of units, those left behind can face increased workloads, either because understaffing becomes more severe or because the routine work of the military installation is spread among a smaller number of personnel. A 1999 survey by the General Accounting Office found that the level of unit staffing and the frequency of deployments were important sources of dissatisfaction among a sample of personnel in occupational specialties with critical retention problems. Although those findings may not apply to the military as a whole, they suggest that increased staffing could help solve some of the services' retention problems.

Critics of increased staffing could argue that, as a practical matter, the services would have difficulty expanding personnel strength at a time when some of them are reporting problems with recruiting and retention. Other opponents of expansion might argue that the strains caused by recent deployments simply reflect the need for the services—particularly the Army and the Air Force—to adapt to a new environment. The Air Force's new concept of the Expeditionary Aerospace Force, which gives each unit a predictable "window" during which it is subject to possible deployment, may be a solution to some of the problems that service has experienced and could be a useful model for the Army to follow.

Some critics of this option might say the real problem is that the services have tried to maintain more force structure than they can effectively staff within existing strength limits. By eliminating units, they could free up personnel for other assignments. That objection might apply best to the Army, which some analysts maintain could reduce its active-duty force structure and place greater reliance on reserve forces in the event of a major theater war. Other critics of this option might argue that instead of being used to fill out existing units, any additional personnel for the active Army should be assigned to new units dedicated to taking part in peace operations (see option 050-12).

Proponents of increased staffing in existing units could dispute some of the critics' claims. Problems in recruiting and retention, they might argue, have already been addressed by planned military pay raises and improved retirement benefits. In addition, the Expeditionary Aerospace Force concept will not solve the problem of overwork in nondeployed units, they might say, and would not affect the Army's deliberate understaffing of some units. □

Option 050-11
Create Additional Support Forces in the Active Army

To fight two major theater wars that occurred nearly simultaneously, the Army would need more than 58,000 additional support forces, according to the service's *Total Army Analysis 2003*. The Army plans to alleviate that shortfall by converting about 48,000 National Guard combat troops into support troops (through the Army National Guard Division Redesign program).

This option would address the rest of the shortage by converting one active-duty armored division entirely into support units (thus eliminating the division from the Army's combat forces). That conversion would entail a one-time cost of about $1.2 billion in budget authority through 2005. Afterward, it would save about $250 million a year, compared with the cost of the current Army, because the new sup-

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	210	49
2003	320	161
2004	320	257
2005	330	298
2006	-227	29
2002-2006	953	795
2002-2011	-299	-262

RELATED CBO PUBLICATIONS:

Making Peace While Staying Ready for War: The Challenges of U.S. Military Participation in Peace Operations (Paper), December 1999.

Structuring the Active and Reserve Army for the 21st Century (Study), December 1997.

port units would cost less to operate and maintain than the combat units they replaced.

This option would have several advantages. By creating more support units in the active component, it would enable a more rapid buildup of forces for the first major theater war. Also, because support units have been in high demand for smaller-scale contingency operations, creating more of those units in the active force could reduce the deployment rate for current active-duty support troops. It could also reduce the need to activate support units in the reserves for such operations, which would save the Army more money.

Adding support forces to the active component could be inefficient, however, in that the Army would be paying for some full-time units that received little use on a day-to-day basis. Many support forces that exist primarily in the reserves—such as civil affairs and prisoner-of-war units—are there because they were originally seen to be in low demand during peacetime. However, those types of units were called up for peacetime operations in Haiti and Bosnia. If the Army is going to conduct similar operations on a regular basis in the future, the units it will need should perhaps be in the active component.

The major disadvantage of this proposal is that it would reduce the number of active combat forces available for a second major theater war. The Army says it needs 5-1/3 combat divisions for each major theater war. Just 4-1/3 active divisions would be available to fight in the second conflict under this option, so the Army would have to rely more heavily on combat units in the Guard. The service would still have enough combat troops in the Guard to provide the additional forces needed for a second conflict. But according to estimates by the Department of Defense, entire Guard divisions could not be ready in time to participate in a nearly simultaneous second war. The Guard's enhanced readiness brigades would probably be ready in time, but substituting three separate Guard brigades for one division could present some operational problems. □

Option 050-12
Add Forces to the Active Army for Peace Operations

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	751	646
2003	1,510	1,363
2004	2,326	2,157
2005	2,409	2,341
2006	2,490	2,447
2002-2006	9,487	8,954
2002-2011	23,112	22,439

RELATED CBO PUBLICATIONS:

Making Peace While Staying Ready for War: The Challenges of U.S. Military Participation in Peace Operations (Paper), December 1999.

Structuring the Active and Reserve Army for the 21st Century (Study), December 1997.

Department of Defense policy assumes that forces deployed to operations such as peacekeeping or peace enforcement could switch quickly to fighting a major theater war if one broke out. But such a switch may take too long to be feasible. Army forces, particularly combat units, that participate in peace operations may need considerable time to repolish their combat skills through exercises, recondition their equipment, and acquire personnel before being ready to fight a conventional war. Moreover, analysis by the Army indicates that even in the absence of other operations, the service would need all of its active-duty combat forces and all of its active and reserve support forces to fight two nearly simultaneous major theater wars.

This option would address those problems by creating four specialized brigades and three headquarters units dedicated to peace operations, thus increasing the active-duty Army by 20,000 soldiers. The four brigades could be deployed singly or in combination, depending on the requirements of the particular operation. In addition, each brigade would have some of the high-demand support units (such as civil affairs, military police, and transportation) necessary for most peace operations.

A special force of 20,000 soldiers would probably be large enough to carry out most of the operations that occur in peacetime. The Army's rate of deployment since 1990, and attempts by the Office of the Secretary of Defense to project the forces needed to conduct smaller-scale contingency operations in the future, suggest that the Army will deploy an average of about 8,500 personnel to such operations at any given time. Nevertheless, peace operations requiring more than 20,000 personnel at once have occurred every two years or so for the past decade, and DoD projects that they will continue at a similar pace for the foreseeable future. Thus, in times of heavy activity, a peace operations force of 20,000 soldiers would have to be augmented by other troops.

This option would have two major advantages. First, it would improve the Army's ability to conduct peace operations. The specialized units would train primarily for such operations and would be fully staffed at all times (unlike some regular Army units, which are 10 percent to 20 percent below their authorized personnel levels when not deploying). As a result, these units would be ready to deploy to peace operations on short notice. In addition, the high-demand support units in the new brigades would allow the Army to reduce its reliance on support troops in the reserves during peacetime. Thus, the Army could avoid the potential problems associated with calling up reservists frequently, such as having to secure Presidential authorization and disrupting reservists' civilian careers, possibly harming morale and recruitment. Moreover, the specialized headquarters that this option would create would give the Army a stable, consistent source of leadership skills and commanders for peace operations.

Another and perhaps more important advantage of this option is that it would increase the Army's capability and readiness for conventional war. Because the Army would have enough forces both to fight two major theater wars and to conduct most peace operations, forces would not be expected to extricate themselves from an operation to take part in a conventional war. Adding units dedicated to peace operations would also allow existing units to focus primarily on preparing for conventional war.

The greatest drawback of this option is that it would be expensive. Paying 20,000 additional active-duty personnel and operating the new headquarters and brigades would cost about $2.5 billion in budget authority per year, on average, between 2004 and 2011. The new brigades could use tanks, armored personnel carriers, attack helicopters, and other equipment from retiring National Guard combat units, so the costs to equip them would be negligible. But recruiting the additional soldiers could pose a challenge and also increase costs. And although this option would allow the Army to avoid the expense of putting reservists on active duty, those savings would offset the costs of the option to only a very small extent.

Another drawback of this option is that the new forces, being designated for peace operations, could be subject to a high rate of deployment. Frequent deployments could be hard on the morale of the soldiers in those units and their families. That problem might not turn out to be significant, however, since troops would presumably rotate in and out of those units and personnel-management practices could help keep deployment rates to a reasonable level.

A third disadvantage is that since the new units would be equipped and trained specifically for peace operations, they would not be thoroughly trained for combat. But peace operations can sometimes involve armed combat, and units that are not trained for it could have trouble handling such situations. Also, some observers might argue that troops who are not fully trained for combat are less intimidating to potential aggressors, thus making them less effective at keeping the peace. □

Option 050-13
Accelerate Creation of the Army's Brigade Combat Teams

	Costs or Savings (-) (Millions of dollars) Budget Authority	Outlays
2002	777	190
2003	703	430
2004	981	651
2005	1,254	866
2006	-263	677
2002-2006	3,451	2,814
2002-2011	3,542	3,384

Since the end of the Cold War, the Army has had to deploy its troops more frequently, often with little notice. In response, the service has launched a long-term plan to transform itself from a heavy, hard-to-deploy force into a more flexible force appropriate for its post-Cold War missions. As one step on that road, the Army would like to convert some existing units into medium-weight brigade combat teams (BCTs), which are designed to be lighter and more easily deployed than today's armored brigades but more heavily armored and lethal than light infantry brigades. However, the service has had trouble finding enough funds to create the brigade combat teams.

This option would convert a total of nine brigades into BCTs at a rate of two per year, at an added cost to the Army of $3.5 billion in budget authority to equip, operate, and build facilities for the units. The Army has said it would like to convert eight brigades at a rate of two per year, but its budget request for fiscal year 2001 provided funds for only one brigade per year over five years. (The Congress added funds to convert an additional brigade in 2001.)

The Army's ultimate goal is to create what it calls the "objective force," which would be as effective as the current heavily armored force but much lighter and easier to deploy. That force would be equipped with the so-called Future Combat System (FCS), which is already under development and is intended to replace most or all Army tanks and combat vehicles starting in 2012.

Because the objective force will not be available for many years, the Army proposed the brigade combat teams as an interim step. According to the Army Chief of Staff, those units would fill a gap in the current force, be particularly well suited to respond to the smaller-scale contingency operations that have become more frequent in the past decade, and allow the Army to begin developing doctrine and procedures for the objective force. To create the BCTs, the Army plans to retrain soldiers and purchase equipment, including the new Interim Armored Vehicle, which will be much lighter than existing Army tanks. Eventually, the BCTs would also be converted to the objective-force design.

Accelerating the creation of the brigade combat teams (and adding one more of them) could have several advantages. First, it would give the Army greater flexibility in responding quickly to crises while it awaits fielding of the objective force. Second, having nine BCTs available to rotate to smaller-scale contingency operations would provide enough forces for three units to be deployed at the same time. (For each unit sent to such an operation, one unit would be recovering from just having been deployed and another would be preparing to deploy.) Third, this option would make additional BCTs available in the event that the objective force was fielded later than planned. The Future Combat System may not be ready on schedule. It is a notional system that includes several technological advances. The agency that is helping the Army develop the FCS, the Defense Advanced Research Projects Agency, has said the program is at risk for schedule and technical delays.

Critics might argue that funds for additional BCTs would be better spent creating more of the types of units that are in high demand for smaller-scale contingency operations, such as military police, civil affairs, and linguistic units (see option 050-11). Also, some observers doubt that the contractors who are bidding to produce the Interim Armored Vehicles could make them quickly enough to equip two BCTs per year. Some people also doubt whether the Army's training, personnel, and doctrine-development processes could keep up with that pace of conversion. Other critics might argue that rather than increasing its budget, the Army should fund the extra BCTs by cutting programs such as the Crusader artillery system (see option 050-28) or by further reducing its force structure (see option 050-09). ☐

Modernizing Weapon Systems and Countering Emerging Threats

Among the most important decisions that DoD officials make are those that relate to initiating, continuing, or canceling modernization programs. Such decisions will affect the capability and readiness of the military over many decades.

In setting policies and developing programs, DoD leaders must try to balance competing priorities. They must deal with the issues raised by an aging stock of equipment. They must address gaps in military capabilities that require the development and deployment of new systems to perform new missions. And they must manage the defense technology base so that future weapons designers will have a broad menu of new technologies and capabilities from which to draw. This section contains options that address those various issues. It also includes options that would cancel or scale back existing modernization programs to pay for new initiatives.

Aging Equipment

DoD's acquisition managers substantially reduced purchases of equipment in the 1990s. They justified those reductions on two main grounds. First, the Soviet threat was gone, and Russia (with a few notable exceptions) was no longer turning out newer and better versions of weapons. Second, U.S. forces were being considerably reduced in numbers, so a surfeit of equipment existed from the buying programs of the 1980s. In fact, in the early 1990s, when forces were being cut most rapidly, so much older equipment was retired that the average age of equipment held steady or even fell for some systems.

Today, by contrast, as a result of that hiatus in procurement, many kinds of military equipment exhibit a higher average age than they ever did in the past. Those aging trends will continue for a number of years for most systems, even those for which replacement systems are in production or development (see Table 5).

Service leaders have expressed concern about a number of problems that result from using older equipment—such as increased maintenance costs, decreased availability of parts, the need to cannibalize one unit to keep another running, and various other difficulties in supporting and maintaining equipment. All of those problems result in lower mission-capable rates, decreased readiness, and increased workloads for maintenance personnel. In the worst case, a significant part of the equipment that supports DoD's force structure could be rendered inoperable if unanticipated problems related to aging arose.

To halt or slow trends in aging, DoD could cut its forces, spend more on procurement, or buy less expensive equipment in greater numbers. The Congressional Budget Office has estimated what it would cost for DoD to replace every piece of equipment in its current inventory with a more-modern version. Based on the current service lives of equipment, DoD would have to spend an average of $90 billion a year to purchase replacements in enough quantities to prevent aging.[4]

For weapon systems that have no replacement in or approaching production, DoD could also fund

4. See Congressional Budget Office, *Budgeting for Defense: Maintaining Today's Forces* (September 2000).

Table 5.
Average Ages of Selected Equipment (In years)

Type of Equipment	Specific System(s)	Service	Past or Planned Service Life of System(s)	Average Age	
				In 2000	In 2010
	Systems Without Replacement Plans				
Tanks	M1 Abrams	Army	30	11	14
Shore-Based Maritime Patrol Aircraft	P-3C	Navy	30-40	23	33
Support Aircraft	E-2, EA-6B, S-3B	Navy	20-36	19	27
Bombers	B-52, B-1, B-2	Air Force	50-70	24	34
Tankers	KC-135, KC-10	Air Force	50-66	38	48
	Systems With Replacement Plans				
Light Attack and Scout Helicopters	OH-58 Kiowa, AH-1	Army	20-36	19	12
Surface Combatants	DD-963, FFG-7, CG-47	Navy	30-40	13	17
Multirole Fighters, Close Air Support	F-14, F/A-18, AV-8B,	Navy	20-30	11	16
	F-16, A-10	Air Force	20-30	14	23
Air-Superiority Fighters	F-15A-D	Air Force	20-30	19	16

SOURCE: Congressional Budget Office based on data from the Department of Defense.

modifications to existing systems, extending their service lives and making them easier to maintain. The department may also want to improve its capability to monitor the stresses that older weapons experience. And it may have to pay more to maintain older weapons.

If the services purchased fewer of their newest and most capable weapon systems, they could buy larger numbers of the systems already in the inventory. Some of the options at the end of this section —which focus on ways to pay for new initiatives— would slow production and reduce purchases of next-generation systems. One of the options below would buy more of today's weapons.

Another way to deal with aging would be to extend service lives for certain systems and upgrade their capabilities at the same time. Costs for upgrades vary, but a rough rule of thumb is that a system's planned service life can be increased by about one-half for two-thirds of the cost of the original system. The Air Force has used that approach to extend the life of its B-52 bombers and KC-135 tankers; the Army and Marine Corps have done the same thing to keep their helicopter fleets in the air.

Another response to problems of aging is to monitor more actively the strains that operations place on a system. The commercial aviation industry has used that approach successfully to target maintenance toward problem areas. An option below would apply that approach to Navy and Marine Corps helicopters.

Option 050-14
Buy More Current-Generation Fighter Aircraft for the Air Force

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	729	131
2003	577	410
2004	62	439
2005	62	247
2006	292	171
2002-2006	1,723	1,398
2002-2011	2,327	2,297

RELATED CBO PUBLICATION:

A Look at Tomorrow's Tactical Air Forces (Study), January 1997.

The Air Force's fleet of tactical fighter aircraft is older, on average, than it has been for many years. Over the next 12 years its average age will rise to unprecedented levels, despite the planned purchase of two new planes: the F-22 and the Joint Strike Fighter (JSF). The programs to produce those fighters could prove both challenging and difficult to afford, so they might be delayed or extended (see options 050-31-A, 050-31-B, and 050-32). Such delays would only exacerbate the aging of the fleet.

To counteract that trend somewhat, this option would buy new models of current-generation fighters (F-15s and F-16s) to replace older models. Those purchases would cost a total of $729 million in budget authority in 2002 and $2.3 billion through 2011. (Force reductions such as the ones discussed in option 050-08 could also slow the aging of the fleet.)

Buying modest numbers of F-15s and F-16s would allow the Air Force to keep both its production lines and its options open should anything go awry with the two new fighter programs. The Congress added funds to the Department of Defense's budget to purchase five F-15s in 2000 and 2001. This option assumes that the Air Force continues to buy F-15Es (since that plane has no signed contracts for foreign sales to keep it in production) at a rate of five per year through 2003, when the F-22 is scheduled to complete operational testing. Those additional F-15s would cost $475 million in 2002 and $484 million in 2003, the period of the added purchases.

DoD also received funds to buy four F-16s in 2001. This option would continue purchasing those planes at a rate of 10 per year through 2008, when the Air Force would receive its first large deliveries of JSFs under the current schedule. Those additional F-16 purchases would add $255 million in 2002 and $1.4 billion over the 2002-2011 period, compared with the program set forth in fiscal year 2001. Such purchases would be a hedge against delays in the JSF program. And if that program slipped beyond 2008 but its costs remained on schedule—a not uncommon pattern in design efforts, in which increased development costs are offset by savings from deferred purchases—adding another year's purchase of 10 F-16s in 2009 would cost about $310 million. □

Option 050-15
Buy Additional Integrated Mechanical Diagnostics Systems for Marine Corps and Navy Helicopters

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	16	3
2003	22	5
2004	8	8
2005	4	8
2006	2	5
2002-2006	51	30
2002-2011	-34	-14

As part of a plan to improve its ability to monitor the maintenance status of its rotary-wing fleet, the Navy is developing the Integrated Mechanical Diagnostics (IMD) system for newer Marine Corps and Navy helicopters. If used properly, systems such as IMD can increase flight safety and decrease turnaround times for maintenance and use of spare parts; as a result, they can save both lives and money. The systems work by monitoring the vibrations that various subsystems on a helicopter give off to determine when those vibrations suggest maintenance problems. Maintenance personnel can access data about how reliably the subsystems are operating by using off-board computers—another feature of IMD.

The Department of the Navy, which purchases Navy and Marine Corps aircraft and systems, plans to install IMD on a variety of newer helicopters. But because of budget constraints, it does not plan to install the system on the Marine Corps's fleet of medium assault CH-46 helicopters, which are scheduled to retire as newer aircraft are fielded. The plan for installing IMD on the Marine Corps's heavy-lift CH-53 helicopters is also slower than it might be because of budget limitations, according to the Marine Corps. This option would purchase the IMD system for CH-46s, accelerate purchases for CH-53s, retrofit 67 H-60 helicopters with the system, and fund miscellaneous shortfalls in the IMD program. To pay for those actions, the Congress would need to add $16 million in budget authority to the Navy's budget for 2002.

The Navy's Office of Safety and Survivability evaluated a commercial variant of IMD, which is already used in the helicopter fleets of the United Kingdom and Canada as well as on helicopters that transport personnel and equipment to offshore mining rigs, and which may be available for off-the-shelf purchases. It adds an expanded flight data recorder (similar to the "black boxes" on airliners) to each helicopter and provides computer systems that let maintenance personnel quickly read the data that are recorded.

According to the Navy office, augmenting and accelerating purchases of such systems would save money in the long run by lowering maintenance costs. In the Congressional Budget Office's estimate, this option would cost a total of $51 million from 2002 through 2006 but would begin saving money in 2007. As a result, the option would yield total net savings of $34 million over 10 years. (For similar efforts to use technology to reduce maintenance costs, see option 050-58.)

More important, the integrated diagnostics systems would save lives by alerting maintenance personnel to potential system failures before they happened. The Navy's Office of Safety and Survivability estimated that installing such systems would reduce peacetime crashes by one-fifth. Because helicopters exhibit erratic flight patterns when they leave controlled flight, crews and passengers cannot eject safely and may not survive a crash. Thus, a reduction in crashes could save lives. Reducing crashes of the older aircraft considered in this option would not save investment dollars, according to the Navy, because the planes that would have crashed would not be replaced in any event. But the fleets of older Marine Corps helicopters might be less taxed by flight operations if they lost fewer aircraft to attrition.

If installing IMD proved to save both lives and costs, other services might decide to use some variant of the system in all of their rotary-wing aircraft, even those that were scheduled to remain in service for only a short period. Therefore, the Navy program might serve as a model for other services' modification efforts. □

Strategic Forces and Missile Defenses

The end of the Cold War has spurred a vigorous debate about the proper role for nuclear weapons and ways to increase nuclear security more broadly. Tensions between Russia and the United States have greatly eased. Both sides have reduced their numbers of short- and long-range nuclear weapons through arms control agreements and unilateral actions. The two countries' conventional forces in Europe have also been cut significantly.

New Threats. Today's security environment is characterized not so much by superpower confrontation as by threats from regional powers and subnational groups. Although such threats were also present during the Cold War, their nature has changed. During the past decade, potentially hostile powers have

greatly increased their programs to develop weapons of mass destruction (chemical, biological, and nuclear) and the ballistic missiles to deliver such weapons.

For much of the 1990s, nuclear issues were on the back burner of the national debate on defense. After U.S. conventional forces proved their dominance during the Gulf War, the United States turned its attention to maintaining enough of those forces to fight and win two nearly simultaneous major theater wars. Regional powers, however, took an entirely different lesson away from the Gulf War: U.S. conventional dominance means that a conventional fight is doomed to failure, but U.S. vulnerability to ballistic missiles and aversion to casualties create other opportunities. An opponent could keep U.S. forces at bay by using missiles tipped with nuclear, chemical, or biological weapons to threaten U.S. regional bases and ports, the populations of allied nations, or even the United States itself.

The ability as well as the motivation to acquire nuclear weapons increased during the 1990s. The nuclear ambitions of regional powers were freed from the constraints of their former Cold War protectors. In addition, the collapse of the Soviet Union and loosening of the old Soviet security apparatus boosted the risk that such powers could get hold of the necessary technologies, materials, and know-how to develop their arsenals. The accelerating pace of proliferation was brought home vividly in 1998 when India and Pakistan tested nuclear weapons and North Korea, India, Pakistan, and Iran tested intermediate-range ballistic missiles.

Thus, despite the U.S. focus on conventional forces for much of the past decade, concerns about nuclear weapons and other weapons of mass destruction have reemerged as important factors in the debate about the future of U.S. forces. The success that the United States has in reducing those threats will affect how it can size, shape, and use its conventional forces in the future.

Possible U.S. Responses. In the wake of the geopolitical changes described above, the United States is reexamining its nuclear policies, including those relating to forces, nuclear weapons, missile defenses, nonproliferation, and U.S.-Russian cooperation to reduce nuclear threats. Some experts advocate cutting U.S. nuclear forces significantly below the 3,500 warheads allowed by the second Strategic Arms Reduction Treaty (START II); they argue that the United States would still have more than enough warheads to deter aggression. Others disagree, contending that the United States should not reduce its forces below current levels (some 8,000 warheads) until Russia does the same. Still others believe that the United States can afford to trim its forces to START II levels now.

Experts also disagree about how the United States should conduct its programs to develop and maintain nuclear warheads. Should it follow the Clinton Administration's approach of continuing the moratorium on testing nuclear weapons by explosion and instead rely on an active program of laboratory testing, experimentation, and computer modeling to ensure the reliability of the nuclear stockpile? Or should the United States resume explosive testing to ensure that the stockpile remains in working order? Should it reestablish a robust production capability that would allow nuclear weapons to be replaced every 20 years (their nominal design life), or should it keep weapons for as long as possible by relying on the ability of the nuclear weapons laboratories to predict when they will wear out? If the latter, is that approach being funded appropriately?

Some analysts' response to emerging threats is to push for defenses against ballistic missiles—both theater defenses (designed to protect troops deployed abroad from short- and intermediate-range missiles) and national missile defenses (designed to protect the United States from long-range missiles). DoD has active programs to develop and deploy both types of systems, but some critics do not think those programs are moving quickly enough.

Although the end of the Cold War has increased the appetite for weapons of mass destruction in some quarters, it has also created new opportunities to control their spread. For example, the changed relationship between Russia and the United States has allowed collaborative efforts—unimaginable during the Cold War—to mitigate those threats. Some of those efforts have helped Russia destroy missiles, bombers, and submarines that are being eliminated under arms control treaties; improve the physical security of its

nuclear weapons and nuclear materials; keep its weapons scientists from selling their skills abroad; and improve its ability to deter nuclear smuggling.

The options below illustrate a variety of possible approaches for making the United States more secure from weapons of mass destruction.

Option 050-16-A
Reduce U.S. Forces to START II Levels by 2004

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-20	-10
2003	-70	-60
2004	-140	-120
2005	-200	-180
2006	-220	-210
2002-2006	-650	-580
2002-2011	-1,850	-1,760

RELATED CBO PUBLICATION:

Letter to the Honorable Thomas A. Daschle regarding the estimated budgetary impacts of alternative levels of strategic forces, March 18, 1998.

The second Strategic Arms Reduction Treaty requires the United States to cut its long-range nuclear forces to 3,500 warheads by 2003—roughly one-third of the 1990 level. START II was approved by the Senate in 1996 but remained unratified by Russia for another four years. In an effort to facilitate approval by the Russian parliament, the United States and Russia agreed in 1997 to amend the treaty in order to delay full implementation until December 31, 2007. (The forces to be dismantled by that date, however, are to be made inoperable by the end of 2003.) Also in 1997, the two nations signed agreements related to the Anti-Ballistic Missile (ABM) Treaty.

The Russian parliament finally approved START II in April 2000. But the treaty will not enter into force until the U.S. Senate approves the amended treaty and the instruments of ratification are exchanged by the two countries. The prospects for that remain unclear. In its resolution of ratification, Russia's lower house of parliament, the Duma, required that the United States also ratify the 1997 agreements about the ABM treaty before Russia will exchange instruments of ratification for START II with the United States. However, many members of the Senate object to the ABM treaty and those agreements.

Today's strategic forces remain largely consistent with the START I treaty:

- 500 Minuteman III intercontinental ballistic missiles (ICBMs) with three warheads each;
- 50 Peacekeeper ICBMs with 10 warheads each;
- 18 Trident submarines (each carrying 192 warheads on 24 missiles); and
- 94 B-52H, 93 B-1B, and 21 B-2 bombers.

To achieve the 3,500-warhead limit in START II, the Clinton Administration planned to cut those forces by:

- Eliminating all 50 Peacekeepers, 18 B-52H bombers, and four Trident submarines by the end of 2007;
- Reducing the number of warheads on Minuteman missiles (from three to one) and on Trident D5 missiles (from eight to five); and
- Redesignating its B-1B bombers for only nonnuclear use.

Although START II has not entered into force, the Clinton Administration decided to eliminate the four Trident submarines over the next four years as a money-saving measure and to redesignate the B-1B bombers to nonnuclear use. However, it planned to maintain 94 B-52Hs and all 50 Peacekeeper missiles until the treaty is in force.

This option, by contrast, would reduce U.S. forces to START II levels even if the treaty does not enter into force. Those cuts would be made by the end of 2004. The primary motivation would be financial; those changes would save almost $1.9 billion in budget authority through 2011. Although this option addresses the reduction of U.S. strategic forces broadly, all of the savings would come from not having to operate Peacekeeper missiles after 2004. (There would be no savings from retiring 18 B-52Hs because the Air Force does not operate them today.) If START II never enters into force and the Air Force is required to maintain Peacekeepers beyond 2011—when it will run out of missiles for test flights—there would be significant costs associated with either reestablishing the Peacekeeper production line or developing a replacement missile. Compared with that possibility, this option would save several hundred million dollars after 2011.

Supporters of this approach argue that keeping long-range forces at today's levels is unnecessary. According to several reports, Russia will have trouble maintaining its forces at START I or perhaps even START II levels. Many of its missiles and submarines are nearing the end of their service life, and production of replacements has slowed to a trickle or stopped altogether. Some advocates of this option also argue that the United States has more than enough nuclear forces to ensure deterrence in the post-Cold War global environment, and the expense and potential danger of maintaining higher force levels is unwarranted. Finally, supporters might argue that the United States' failure to reduce its own nuclear forces undermines its efforts to encourage nonproliferation elsewhere.

Critics argue that U.S. forces should remain at current levels until START II enters into force. They oppose any unilateral reductions. They also worry that Russia might build up its nuclear forces if a hard-line government came to power. Other critics believe that the era of bilateral arms control is over but that the United States must undertake a thorough review of its strategy and deterrence requirements before reducing its forces. □

Option 050-16-B
Reduce Nuclear Delivery Systems Within Overall Limits of START II

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-240	-80
2003	-310	-190
2004	-550	-370
2005	-1,090	-790
2006	-1,350	-1,140
2002-2006	-3,540	-2,570
2002-2011	-8,220	-7,910

RELATED CBO PUBLICATION:

Letter to the Honorable Thomas A. Daschle regarding the estimated budgetary impacts of alternative levels of strategic forces, March 18, 1998.

This option would go one step farther than the previous alternative. It would reduce the number of missiles and submarines below the levels planned by the Clinton Administration for START II but keep the number of warheads roughly at START II levels. Specifically, it would retire two additional Trident submarines and 200 Minuteman III intercontinental ballistic missiles by 2007, retaining 12 Tridents and 300 Minuteman IIIs. To keep a similar number of warheads, the smaller Trident force would carry six warheads on each missile instead of five. Minuteman III missiles would carry one warhead apiece. This option would keep the same number of nuclear bombers as option 050-16-A, each carrying an average of 16 warheads. In all, those forces would carry about 3,500 warheads—the limit set in START II.

Compared with keeping U.S. forces at current levels, this option would save $240 million in budget authority in 2002 and $8.2 billion through 2011. Part of those savings—which were outlined in option 050-16-A—would come from reducing forces to START

II levels. This option would save an additional $220 million in 2002 and $6.4 billion through 2011.

Overall, the savings in this option would come from reduced operation and support (O&S) costs and lower levels of investment. The O&S savings, about $5.2 billion over 10 years, reflect the retirement of 50 Peacekeeper missiles, 200 Minuteman missiles, and two Trident submarines. The investment savings, $3 billion, would result from forgoing plans to reconfigure two Trident subs (about $0.9 billion), not upgrading some Minuteman missiles (about $0.9 billion), and ending production of D5 missiles ($1.8 billion). Those savings would be partly offset by the costs of retiring the Minuteman and Peacekeeper missiles and the Trident submarines (about $0.6 billion).

During the Cold War, this option might have raised concerns about stability. By putting more nuclear "eggs" in fewer baskets, the United States would have increased its vulnerability to a surprise attack. But today those concerns are less acute. The United States may now decide that it can safely deploy its warheads on fewer weapon systems. Moreover, this option would retain three types of nuclear systems—the so-called nuclear triad—and thus provide a margin of security against an adversary's developing a new technology that would render other legs of the triad more vulnerable to attack.

The disadvantages of this option include those raised in option 050-16-A about cutting forces before START II enters into force, as well as the disadvantages of cutting the D5 program described in the next option. In addition, carrying more warheads on D5 missiles would reduce the targeting flexibility of U.S. planners, and deploying fewer submarines might increase their vulnerability to Russian antisubmarine forces. Unilaterally cutting forces would also limit the United States' ability to increase the number of warheads it deployed if START II never entered into force and Russia decided not to reduce its nuclear forces.

The advantages of this option are also similar to those described in 050-16-A. In addition, some supporters of this option would argue that current U.S. force requirements are driven by an outdated and unnecessarily large target list. Deterrence, they believe, would still be robust with a much smaller arsenal. □

Option 050-17
Terminate Production of D5 Missiles in 2002

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-220	-40
2003	-290	-130
2004	-460	-250
2005	-830	-520
2006	-480	-650
2002-2006	-2,280	-1,590
2002-2011	-3,100	-3,030

RELATED CBO PUBLICATION:

Rethinking the Trident Force (Study), July 1993.

Under both Strategic Arms Reduction Treaties, the Navy plans to deploy a force of 14 Trident submarines. Each one will carry 24 D5 missiles—the most accurate and powerful submarine-launched ballistic missile in the U.S. inventory. Today, the Navy has 10 Trident submarines armed with D5s and eight armed with older C4 missiles. To keep 14 submarines, it must convert four older subs to carry D5s as well. Conversion of one of the submarines began in 2000, and the next is scheduled to begin in early 2001. To arm the 14-submarine force, CBO estimates, the Navy will have to purchase a total of 425 D5 missiles, 384 of which it will have acquired by the end of fiscal year 2001. If START II enters into force, the Administration will probably cut the number of warheads on each missile from eight to five (for a total of 1,680) to keep the number of U.S. warheads near the ceiling allowed by that treaty.

This option would terminate production of D5 missiles in 2002 and retire six of the eight submarines armed with C4s by 2006. The Navy would then have 384 D5s, which CBO estimates is enough to support a 12-submarine force. To retain a similar

number of warheads, the option would increase the number of warheads on each D5 missile from five to six.

Compared with the Clinton Administration's plan for START I and II, this option would save $220 million in budget authority in 2002 and $3.1 billion through 2011. The savings would come from canceling missile production; retiring six of the eight C4-armed submarines and upgrading only two, rather than four, of them; and operating fewer subs. (An alternative option, 050-25, would convert the four oldest Trident submarines that carry C4s to instead carry conventional land-attack missiles and special-operations forces.)

Terminating production of the D5 would have several drawbacks. The Navy recently extended the service life of Trident submarines from the original 30 years to at least 42 years. Thus, it will need D5 test missiles for a longer period, which may require a greater total purchase than originally assumed. Although 384 missiles would be sufficient for a 12-submarine force with a 30-year service life, they might not be enough for the same force with a 42-year or longer service life. In addition, because the service-life extension of the Tridents has created a potential mismatch between the life span of the submarines and the life span of their missiles, a service-life extension may be required for the D5. If such an extension program involved significant changes to the missile (such as a major redesign of replacement components), additional flight tests might be needed to judge its performance. If the D5 program was terminated in 2002, reopening production lines to provide such test missiles could have major cost implications.

Opponents of this option might also argue that loading more warheads on existing missiles would reduce their range and would lessen the flexibility of the force, since missiles with fewer warheads can cover more widely dispersed targets. In addition, cutting the fleet to 12 submarines could increase its vulnerability to attack by Russian antisubmarine forces.

Nevertheless, some people may consider the capability retained under this option sufficient to deter nuclear war. Although the missiles' range and the submarines' patrol areas would be smaller, they would still exceed the levels planned during the Cold War—when Russia had more antisubmarine forces and the United States intended to deploy the D5 with eight large warheads (W-88s). Moreover, less targeting flexibility might not reduce the nuclear deterrent: 1,680 warheads deployed on 336 missiles might not deter an adversary any more than the 1,728 warheads on 288 missiles called for in this option. Also, the smaller likelihood of nuclear war and Russia's atrophying nuclear forces may have weakened the rationale for the United States to be able to increase its forces rapidly by adding warheads to the D5. □

Option 050-18
Reduce the Scope of DOE's Nuclear Weapons Activities

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-110	-70
2003	-200	-160
2004	-290	-260
2005	-390	-350
2006	-470	-440
2002-2006	-1,460	-1,280
2002-2011	-3,980	-3,770

RELATED CBO PUBLICATION:

Preserving the Nuclear Weapons Stockpile Under a Comprehensive Test Ban (Paper), May 1997.

The Department of Energy (DOE) is charged with preserving the long-term reliability and safety of U.S. nuclear weapons without testing them by exploding them underground. To carry out that task, DOE plans to continue operating both of its weapons-design laboratories (Los Alamos and Lawrence Livermore) and its engineering lab (Sandia). It will also construct several new facilities to provide data on the reliability and safety of nuclear weapons as they age. In ad-

dition, DOE will conduct "zero-yield" subcritical tests at the Nevada Test Site so it can keep enough skilled technicians there to be able to resume testing nuclear weapons by exploding them underground if the United States decides that doing so is in the national interest—a capability that President Clinton ordered DOE to retain.

DOE plans to spend an average of $5 billion a year over the next 10 years on nuclear weapons activities. To some observers, a budget of that size today is excessive.

This option would reduce the scope of those activities by consolidating the two design laboratories and halting all testing activities at the Nevada Test Site. However, it would preserve most of the other weapons programs, including the Dual-Axis Radiographic Hydrotest (DARHT) facility at Los Alamos and the National Ignition Facility (NIF) at Lawrence Livermore. Taken together, the changes in this option would reduce employment by about 2,000 people. They would also save $70 million in outlays in 2002 and almost $3.8 billion through 2011 compared with the program in the Clinton Administration's 2001 budget.

Those savings assume that weapons-design activities would be consolidated over five years at Los Alamos, which developed most of the weapons that are likely to remain in the stockpile. Lawrence Livermore's primary focus would become other scientific research. To ensure that the warheads it developed could be reliably maintained, some designers from Lawrence Livermore would be relocated to Los Alamos. However, a cadre of weapons scientists would remain at Livermore to act as an independent review team for Los Alamos's efforts. To provide them with challenging work, Livermore would keep large computational facilities for modeling the complex processes inside nuclear weapons and would build NIF as currently planned. (Alternatively, weapons activities could be consolidated at Lawrence Livermore, but the savings would be smaller.)

To some people, this option would cut some of DOE's weapons programs too deeply. They believe that those programs are the minimum effort necessary to maintain the nuclear stockpile without underground testing. In their view, scientists will need new facilities to obtain data on reliability that were formerly provided directly by such testing. They also contend that consolidation would reduce competition and peer review, result in the loss of some facilities that could not easily be transferred, and eliminate Lawrence Livermore's central unifying mission (and thus its motivation for excellence). For those reasons, President Clinton directed DOE to retain both labs. Closing the Nevada Test Site would increase the time needed to resume underground testing if the United States determined that such testing was necessary for national security reasons or if it discovered a serious problem with its stockpile that could be corrected only by such testing. Closing the test site would also stop scientists from conducting subcritical experiments to learn more about how aging affects the plutonium components in nuclear weapons.

To other people, this option would not cut deeply enough. In their view, keeping part of a second lab and building DARHT and the $3.5 billion to $4 billion NIF are unnecessary to support the nuclear stockpile. Furthermore, they claim, those facilities might allow DOE scientists to continue designing and testing weapons and circumvent the restrictions imposed by the Comprehensive Test Ban Treaty. Even if DOE has no such intentions, the perception of such a capability could make it difficult to convince countries such as India, which are critical of the United States' plans to preserve its nuclear weapons under a test ban, that the United States has really given up designing new weapons. Critics also argue that NIF should be funded outside the nuclear weapons program if it can help scientists understand how to harness fusion for civilian energy, as supporters claim.

Finally, some analysts are fundamentally opposed to a U.S. moratorium on testing (which will become permanent if the United States ratifies the test ban treaty). They contend that the only way to ensure the reliability of U.S. nuclear weapons is to explode those weapons underground. They also worry that by halting the development and testing of new types of weapons, the United States will lose the skilled people necessary to preserve the stockpile. This option does not address the test ban directly, but the cuts it would make to the laboratories would probably be resisted by opponents of the test ban. □

Option 050-19
Fully Fund the National Missile Defense Proposed by the Clinton Administration

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	420	90
2003	470	240
2004	470	360
2005	220	390
2006	640	470
2002-2006	2,220	1,550
2002-2011	3,750	3,580

RELATED CBO PUBLICATION:

Budgetary and Technical Implications of the Administration's Plan for National Missile Defense (Paper), April 2000.

The Clinton Administration began developing a limited system to protect the United States from attack by ballistic missiles but did not commit to deploying it. After reviewing the progress of the program and the potential threats, President Clinton decided in September 2000 to defer deployment of the system. Any decision on deployment will now be made by President Bush. In April 2000, the Congressional Budget Office estimated the cost to field the Clinton Administration's national missile defense system at $29.5 billion through 2015. It concluded that the Administration's fiscal year 2001 budget request did not include enough money to develop and deploy the initial system—with 100 interceptor missiles—that the Administration envisioned.

This option would fully fund deployment of that system. The interceptor missiles would be located at a single site in Alaska; a battle-management center and a new X-band radar would also be constructed there. In addition, five existing early-warning radars would be upgraded to provide early tracking of missile attacks. The resulting system, known as Expanded Capability 1, would defend against tens of warheads that perhaps were accompanied by rudimentary countermeasures, according to the Department of Defense. (DoD is also considering a Capability 2 system that it says would be able to handle warheads with more sophisticated countermeasures.) The system could be functional—with 20 interceptors—by the end of 2006 or 2007 and could be completely deployed by 2008.

CBO estimated that deploying the Expanded Capability 1 system in Alaska would cost about $3.8 billion more in budget authority over the next 10 years than the Clinton Administration included in its 2001 budget plan. About $0.7 billion of that increase would come from anticipated growth of weapons production costs, another $0.7 billion from buying additional interceptors and upgrading the radars, $0.9 billion from increased construction costs, and the remaining $1.5 billion from increased operations and support. Those estimates from April 2000 may now be too low, however. A combination of delays in testing and efforts by the Clinton Administration to reduce the program's technical risk (including a more challenging testing program) may have increased the funding requirements well beyond the levels included in this option.

Supporters of quickly deploying a national missile defense argue that the threat of an attack on the United States by intercontinental ballistic missiles from developing countries is imminent, if it does not exist already. They cite North Korea's test of a Taepo Dong missile as evidence that hostile nations in the developing world will soon be able to target the United States. A commission established by the Congress to evaluate that threat (known as the Rumsfeld Commission after its chairman, Donald Rumsfeld) reported that the threat could emerge quickly and perhaps without warning. In addition, hostile countries might try to limit the United States' freedom of action overseas by deploying a few long-range missiles (on the theory that U.S. leaders might be reluctant to aid their allies if the U.S. population was vulnerable to a ballistic missile attack). Supporters argue that a national missile defense could prevent such a ploy from working.

Other advocates of deploying a national missile defense would not support this option, however. Some believe that the United States should deploy more extensive defenses, either on the ground or in space. They worry about accidental launches of Russian missiles—particularly given the effect of economic collapse on that country's command-and-control system—and argue that the United States must do everything it can to protect itself from such attacks. Still other supporters of a national missile defense believe the system should be based on ships.

Opponents of an immediate decision to build a national missile defense argue that the United States should wait until the threat warrants such an expensive investment. The longer the United States waits, they say, the better the technology will be. Some critics maintain that the hit-to-kill technology that DoD is pursuing is not technically feasible now because it is too vulnerable to simple countermeasures. They point out that none of the flight tests conducted so far have demonstrated the system's ability to counter realistic countermeasures. Nor would the system protect against shorter-range ballistic or cruise missiles that could be launched from ships off U.S. coasts. Other opponents believe that the United States' nuclear deterrent has been and will continue to be more effective at protecting the United States than any missile defense.

Some critics also contend that deploying a national missile defense would seriously harm other aspects of U.S. security. They worry most about Russia's reaction: such a defense would violate the Anti-Ballistic Missile (ABM) Treaty as it now stands, which many people in the United States and Russia consider the cornerstone of nuclear arms control. If the United States abandoned that treaty, Russia might refuse to reduce the size of its nuclear force. It might even increase that force to ensure that it could overcome the U.S. defense system. Moreover, the hard feelings that a missile defense might create in Russia could jeopardize ongoing cooperative efforts to address U.S. concerns about nuclear proliferation (see option 050-22). Opponents of a national missile defense also fear that China would respond by sharply increasing the number of weapons it could use to strike the United States and increasing the day-to-day readiness of its forces to launch quickly. If the North Korean threat is driving the United States to deploy a national missile defense, one approach to that threat that might address Russian concerns and be more effective against countermeasures would be to deploy a boost-phase defense near Vladivostock, Russia (as Richard Garwin from the T.J. Watson Research Center and Ted Postol of the Massachusetts Institute of Technology have proposed).

The ABM treaty and Russia's possible reaction to a U.S. national missile defense are hotly debated even among supporters of quick deployment. Some argue that the treaty is a product of a bygone era and should be abandoned. In their view, it is no longer in effect because one of the signatories, the Soviet Union, no longer exists. Other supporters of a national missile defense believe that the treaty is still in force but can be modified through negotiations to allow the planned system to be deployed without jeopardizing arms control efforts and nuclear stability. □

Option 050-20
Fully Fund the Navy Theater Wide Missile Defense System

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	130	60
2003	240	160
2004	350	270
2005	360	300
2006	900	550
2002-2006	1,980	1,340
2002-2011	3,470	3,390

The United States is developing two defenses against longer-range theater ballistic missiles: the Army's land-based Theater High Altitude Area Defense (THAAD) and the Navy's ship-based Theater Wide system. The Clinton Administration's budget plan for fiscal year 2001 did not include enough money to deploy both of those systems as soon as possible.

The Administration fully funded the THAAD program, but its budget for the Navy Theater Wide system did not provide funds for deployment. Instead, it provided for completing part of the system—the Aegis LEAP Intercept flight-test program—in 2002 and sustaining the industrial base for the system through 2005. At the end of the flight-test program, the Department of Defense plans to determine further funding for the Theater Wide system on the basis of flight-test performance.

This option, by contrast, would fully fund both THAAD and the Navy Theater Wide system. (Because the funding in the Clinton Administration's 2001 budget reflects the projected requirements for deploying THAAD, not the Navy program, this option would pay for deployment of the Navy system.) Doing so would cost about $3.5 billion in budget authority over 10 years.

Those two systems, known as upper-tier defenses, are designed to provide an upper layer of protection for broad areas within a theater of combat. They complement lower-tier defenses, such as the Patriot and Navy Area systems, which protect relatively small areas. (Theater defenses are distinct from national missile defenses in that only the latter can protect against missiles with intercontinental ranges.) The THAAD program is well established: the Army and the Ballistic Missile Defense Organization (BMDO) have been developing it for more than 10 years. The Navy Theater Wide program is a relative newcomer. It would be deployed on Aegis cruisers and would consist of an upgraded Aegis radar and a number of Standard missiles carrying the lightweight exoatmospheric projectile (or LEAP) kill vehicle. To be fully effective, the system would also require that the United States deploy the 24 satellites that make up the low-orbit segment of the Space Based Infrared System.

Under this option, an initial version of the Navy Theater Wide system—called Block1A—would be funded for deployment by 2006. More-capable versions of that initial Block 1 capability, Block 1B and Block 1C, would be funded for deployment in 2008 and 2010, respectively. (A significantly more capable, Block 2 system could be deployed later, but those costs are not included in this option.) In addition, THAAD would be deployed in 2008, as under the Clinton Administration's 2001 budget plan.

The primary motivation for fully funding both programs is that a number of countries—including North Korea, Pakistan, Iran, and India—are developing and deploying ballistic missiles with ranges of more than 1,000 kilometers, which will begin to exceed the capability of lower-tier defenses. Both upper-tier systems have unique capabilities that would help protect U.S. forces and allies from such longer-range missiles. THAAD could protect forces on land, particularly those away from coastal regions. The Navy upper-tier system could protect areas near coasts and might provide the only upper-tier defense in a theater of combat until THAAD could be set up. The Navy system is also uniquely suited to defend Japan from North Korea. A few Aegis ships off the coast of North Korea could protect all of Japan by intercepting missiles as they left the atmosphere during their ascent phase. For an extra layer of protection, ships off the Japanese coast could intercept any surviving warheads as they reentered the atmosphere near that country. In some cases, the Navy upper-tier system could also intercept missiles launched by Iran against Israel or Saudi Arabia, although the locations of the ships would not be ideal.

Fully funding the Navy upper-tier system has other potential advantages. In some situations, the system could be very effective against missiles that carry many small warheads. Those so-called submunitions can easily overwhelm ground- and sea-based defenses located near the targeted areas because instead of having to intercept one warhead, the defenses must contend with dozens or even hundreds. If the Navy upper-tier system could intercept such missiles during their ascent phase, it could destroy them before they had a chance to deploy their submunitions. In addition, according to BMDO, the Navy system has the potential in some scenarios (if it is upgraded to the Block 2 configuration by improving its kill vehicle) to defend far western parts of the United States, such as Alaska and Hawaii, from the Taepo Dong II missile that North Korea is developing.

Those advantages must be balanced against several disadvantages. First, although the Navy upper-

tier system can protect large areas, it is more susceptible to countermeasures than THAAD, which can operate in the upper portions of the atmosphere as well as in space. Discriminating between actual warheads and objects designed to look like warheads (such as lightweight balloons) is more difficult outside the atmosphere. In addition, the kill vehicle on the Navy interceptor missiles will be relatively simple and less able to distinguish warheads than the larger exoatmospheric kill vehicle that is being developed for a national missile defense.

Second, some analysts worry that the Navy upper-tier system could violate the Anti-Ballistic Missile (ABM) Treaty. Although the United States and Russia negotiated an agreement that would allow the United States to designate that system as a theater missile defense, the Clinton Administration did not submit the agreement to the Senate for ratification, and some Senators have serious concerns about the substance of the agreement. Other analysts contend that concern about compliance with the ABM treaty is moot: the treaty is no longer in force, they argue, because the Soviet Union no longer exists.

Third, using the Navy upper-tier system (in its Block 2 configuration) would not be the only option for intercepting North Korean missiles aimed at the United States. One alternative would be to use the Air Force's Airborne Laser—which could be available a few years earlier than the Block 2 system. Another option would be to deploy a ground-based defense near Vladivostock, Russia, that could intercept those missiles during their boost phase, when they would be easier to detect and kill and when countermeasures would be less difficult to overcome. □

Option 050-21
Establish a Space-Based Capability to Search For and Track Adversaries' Spacecraft

The United States is the leading "spacefaring" nation of the world. The U.S. military has incorporated satellites into almost all levels of its operations: from providing early warning of long-range missile attacks to guiding bombs as they fall toward their targets.

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	10	10
2003	60	40
2004	60	50
2005	70	60
2006	110	90
2002-2006	300	250
2002-2011	620	590

Although using space in those ways has given the United States extraordinary capabilities, it has also made the country vulnerable if its satellites are attacked. Potential adversaries have noted the advantage that satellites gave the United States in the Gulf War, and they are proceeding with their own plans to utilize space. The United States cannot fully respond to such threats without accurate and timely knowledge of where other countries' spacecraft are located.

This option would build and operate a fleet of three satellites dedicated to searching for and tracking the satellites of potential adversaries in low-Earth orbit or higher. Doing that would cost the Department of Defense a total of $620 million in budget authority over 10 years. The sensors on the three new satellites would be based on the same technologies being used on the United States' only current space-surveillance satellite. Furthermore, the satellites would be relatively small, since they would be dedicated to one task. Thus, their launches could be conducted with only two space-launch vehicles; after the first satellite had been put into orbit for a brief testing period, the second and third could be launched on a single Delta II rocket. Once the fleet was in orbit, operating it would cost less than $10 million a year. Each satellite would have a lifetime of seven years (the estimated costs of this option include funding for long-lead items for replacement satellites).

Although space may appear to be a borderless void, there are distinct regions above the Earth that accommodate some purposes better than others.

Thus, simply knowing a satellite's altitude can give a good indication of its intended mission. Photo reconnaissance satellites are placed in low-Earth orbits to optimize their views; navigational satellites, such as the Global Positioning System, are in medium-Earth orbits a little farther out; and communication satellites are often even farther out in geostationary orbits, in a part of the region known as deep space. Other details of a satellite's orbit—such as the longitude over which it spends most of its time—might indicate the intentions and interests of its owner. For example, shortly before the end of the Gulf War, Russia put an early-warning satellite into geostationary orbit roughly over the combat zone. That is not the nation's highest-priority position, which can be determined by looking at how often it places a satellite there. (Russia eventually moved this satellite to its highest-priority position—over the Atlantic where it can watch U.S. missile fields.) Positioning the satellite near the Gulf War combat zone at that time possibly signaled Russia's interest in the region.

The United States uses a network of surveillance facilities to search for and track spacecraft orbiting the Earth. Those facilities include radars and optical telescopes based on the ground as well as the existing space-based telescope, which joined the surveillance network in 1998. The ground-based assets, however, face a number of limitations on when they can operate, the size of the objects they can see, and how far into space they can search. Radars can view low-altitude satellites (including most photo reconnaissance satellites), but they can detect only the largest satellites in geostationary orbits, because of the long distances—nearly 50,000 miles—that the radar beams must travel. Thus, the United States uses optical telescopes to search for and track such high-altitude satellites. But optical telescopes based on the ground are effective only at night and in clear weather.

The U.S. space-surveillance network tracks nearly 10,000 objects—orbital debris as well as satellites. The parameters that describe the orbits of those objects allow the Air Force to predict their future positions. But those parameters must be updated periodically with new observations because a host of factors—from atmospheric variations to human actions—can cause a satellite's orbit to change substantially. The Air Force updates the orbits of Russia's photo reconnaissance satellites every seven hours, on average. Satellites in higher orbits are tracked less often: every 24 hours, on average, in the case of Russia's early-warning satellite in geostationary orbit.

On some occasions, however, several days have gone by without the U.S. network tracking the Russian early-warning satellite. Such gaps might pose a danger not only for U.S. space assets—if the Russian satellite had been a space mine, it could have maneuvered close to a U.S. satellite and exploded—but also for U.S. ground forces. In 1998, a Russian early-warning satellite in geostationary orbit reportedly observed the flashes from attacks on Baghdad by U.S. Tomahawk missiles. Observations of such flashes from munitions can be used to increase battlefield awareness and directly assist combat troops.

Further, a global trend is taking place toward satellites that are smaller but still capable of making sophisticated observations. That trend poses at least two distinct dangers to the U.S. military. First, it "lowers the bar" for developing countries to orbit satellites, because less powerful rockets can be used. Second, small satellites—which some analysts worry could be smaller than a bowling ball—are much more difficult to detect in the vastness of space or to track once they have been found.

The fleet of three satellites that this option envisions would significantly improve the U.S. space-surveillance network by allowing virtually all potential enemy spacecraft to be tracked and their location updated at least every six hours—and all satellites in geostationary orbits at least every 15 hours. Moreover, that fleet is expected to be capable of detecting and tracking near-Earth satellites smaller than a bowling ball.

Critics of this option could point out that many potential U.S. adversaries are no match for the United States in terms of being able to orbit sophisticated military satellites. For example, North Korea has tried to develop a space-launch capability along with an intercontinental ballistic missile, but it failed in its first attempt to orbit a satellite. Thus, critics might argue, the United States can afford to wait until the threat is more pressing before adding to its space-surveillance network.

Other opponents might argue that this fleet of spacecraft would be too limited in its ability to track photo reconnaissance satellites. (Because of interference from sunlight reflected off the Earth's surface, the window for tracking such spy satellites might be limited to a half-dozen or so brief intervals each day, the Congressional Budget Office estimates.) Those critics might feel that photo reconnaissance satellites are the only near-term space threat that the United States should be concerned about. In their view, a preferable option might be to add satellite-tracking sensors to the planned fleet of low-orbit satellites in the Space Based Infrared System (SBIRS), which is intended to detect and track warheads that are coasting through space. Giving that system the ability to track photo reconnaissance satellites in low-Earth orbit could be less expensive than launching a new fleet.

Still other critics of this option would argue that the U.S. military should have a fleet of satellites dedicated to tracking spacecraft but that the positioning of the satellites in this option would not be optimal for detecting and tracking satellites in low-Earth orbit. They would call for adding a fourth new satellite that would be placed in an orbit varying from very close to the Earth to very far away. That satellite would spend most of its time far from the Earth and could search for reconnaissance satellites as they came around the Earth's edge.

Proponents of this option, by contrast, might argue that the spacecraft of potential adversaries already pose a significant threat: they could gather information on U.S. ground forces and even destroy U.S. satellites. In that view, the United States should not only prepare for emerging space powers like North Korea but also carefully watch Chinese and Russian satellites at all altitudes.

Proponents could also argue that launching three satellites dedicated to space surveillance would be better than trying to add another requirement to the low-orbit SBIRS satellites, which already have a difficult and complex task just finding and tracking missile warheads. An extra telescope, sensor, and associated computers would add a new level of complexity to the communications and control of SBIRS and might require redesigning the architecture of the whole system. Moreover, proponents would say, the improvements that a new space-surveillance fleet would make in searching out and tracking potential adversaries' higher-orbit satellites are important enough to justify a dedicated system. Further, they might argue, the system could adequately track known low-orbit satellites if its resources were allocated carefully. □

Option 050-22
Increase Funding for Nuclear Nonproliferation Efforts in Russia

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	40	30
2003	40	40
2004	40	40
2005	40	40
2006	50	40
2002-2006	210	190
2002-2011	460	440

RELATED CBO PUBLICATION:

Cooperative Approaches to Halt Russian Nuclear Proliferation and Improve the Openness of Nuclear Disarmament (Memorandum), May 1999.

Since the collapse of the Soviet Union in 1991, the United States has been concerned about the security of the nuclear materials and weapons in the former empire. Social upheaval in the former Soviet republics and the loosening of the Soviet-style security apparatus have left nuclear weapons, nuclear materials, and weapons-design expertise vulnerable to proliferation. This option would increase funding for programs aimed at reducing those threats.

Over the past eight years, the United States has instituted several programs to help Russia and the former Soviet republics prevent such proliferation. Those programs include:

- o The Department of Defense's Cooperative Threat Reduction program (also known as Nunn-Lugar), which is helping Russia secure its existing nuclear weapons as well as the fissile materials (including highly enriched uranium and plutonium) from weapons it is dismantling under the Strategic Arms Reduction Treaties;

- o The Materials Protection, Control, and Accounting (MPC&A) program of the Department of Energy, which has helped the former Soviet states protect their far-flung stocks of weapons-usable nuclear materials; and

- o Other programs aimed at keeping weapons scientists in Russia and helping the former Soviet states halt nuclear smuggling.

In all, the United States spends about $800 million a year on those efforts.

This option would increase funding for two of those nuclear nonproliferation programs: the MPC&A program and the Department of Energy's Nuclear Cities Initiative (NCI). Specifically, it would boost funding for both programs by 20 percent over the amounts appropriated for fiscal year 2001. That increase would cost a total of $460 million in budget authority through 2011 ($400 million for MPC&A and $60 million for NCI).

The additional funding for the MPC&A program would help accelerate the process of securing fissile materials in Russia and consolidating them so they are stored at fewer sites. It would also help ensure that storage sites that have already been secured will remain so in the future. The increases for the NCI would go to creating additional jobs for displaced weapons scientists and engineers and creating further commercial opportunities in Russia's "nuclear cities" (the formerly closed, isolated towns devoted to weapons research and production).

Several analysts have argued that the United States should step up its efforts to address the proliferation threat from Russia. Those efforts are critical, they say, because of continued economic troubles in Russia, which mean that nuclear workers often go unpaid for months at a time; the rise in organized crime in that country; and the persistent efforts of some rogue nations and terrorist groups to develop weapons of mass destruction and the means to deliver them.

Proponents of this option would argue that the MPC&A program in particular requires greater attention and resources, since vast stockpiles of fissile materials remain in Russia and access to those materials is the primary obstacle for a country bent on developing nuclear weapons. Moreover, they argue, the scope of the problem has turned out to be much greater than originally anticipated, but budgets and plans have not increased accordingly. Other supporters would emphasize the need to give nuclear weapons scientists and other key workers in the nuclear cities less incentive to sell their skills abroad out of financial desperation.

Critics of expanding U.S. efforts would argue that the United States is already doing enough to reduce the proliferation threat from Russia. Some would also contend that although the problem is important, other nations should contribute greater resources to countering the threat of Russia's nuclear materials and expertise falling into the wrong hands. After all, they would argue, nuclear weapons proliferation is a threat not only to the United States but also to its friends and allies in Europe, Asia, and elsewhere.

Still other critics might argue that efforts to reemploy workers in the nuclear cities face potential problems. Trying to create vibrant civilian economies in those cities could prove difficult, particularly given Russia's continuing economic troubles. Moreover, it can be hard to establish that U.S. funds are directly serving nonproliferation goals by effectively reducing the incentives for scientists and other nuclear workers to help countries that are seeking nuclear weapons. □

Other Emerging Threats and the Revolution in Military Affairs

As it formulates plans for research and development and sets priorities for modernization, DoD must be keenly aware of emerging threats and devise new ways to cope with them. DoD officials and other analysts have identified a number of those threats in

analyses such as the 1997 Quadrennial Defense Review, the National Security Strategy, the Strategic Assessment, and the Report of the National Defense Panel. In addition to the threat just discussed—the proliferation of nuclear, biological, and chemical weapons and the means to deliver them—two other major emerging threats are often cited:

- Advanced weapons that could threaten the ability of U.S. forces to enter a theater (for example, enemy air-defense systems and weapons directed at choke points, such as straits, ports, and airports); and

- Information warfare (disrupting the military's ability to communicate and transmit information as well as the abilities of civilian agencies and businesses).

To counter those threats, some of the options below would improve the military's reconnaissance systems. Another would add to the number of surface-launched cruise missiles that the United States could deploy in a theater. Yet another option would improve the Navy's ability to prevent other countries' diesel-electric submarines from hampering U.S. naval operations.

In addition to those approaches, improving precision-guided munitions would add to the United States' ability to quickly identify, target, and destroy conventional weapons used to threaten deploying U.S. forces. Moreover, research and development programs could be directed toward establishing improved capabilities in such areas as detecting and disabling sea mines, repairing runways, and quickly reestablishing the ability (if it was lost) to deliver equipment and supplies from ship to shore.

Such initiatives could be part of a broader effort by DoD to pursue technological advances that can fundamentally transform the way military operations are conducted—what many experts call the revolution in military affairs. Technological advances (such as cannons and gunpowder, steam-powered ships, and aircraft) have clearly played a key role in past military revolutions. And certainly, the past 20 or so years have seen advances in sensor and information technologies that also appear to have major implications for warfare.

Technological trends affecting the military are part of larger forces shaping society as a whole. Those trends include high-speed, distributed computational power; dramatic increases in communication capabilities; networked communications (ranging all the way from local office networks to the Internet); microminiaturization of machines; and advances in biological sciences, such as genetic engineering. All of those trends have potential military applications, and DoD's lead innovator, the Defense Advanced Research Projects Agency, and its service counterparts are actively pursuing them.

Technological advancements also carry with them additional risks and complexities. Any new advance—such as a battlefield network linking all active forces with surveillance assets and commanders—becomes a target of attack for a sophisticated enemy. The increased complexity and interconnectedness of modern industrial society also present opportunities for attack, and if the enemy is less advanced, it is at less risk from a similar counterattack. Furthermore, change requires more than technological advances to be effective. It can require changes in organization, tactics, doctrine, and training.

Several of the options that follow relate to DoD's efforts to incorporate new technologies into its operations and equipment, including options that would purchase more unmanned air vehicles as reconnaissance assets or launch satellites into space for better communications on the battlefield.

Option 050-23
Buy an Additional MILSTAR Communications Satellite

The Air Force's Military Strategic and Tactical Relay (MILSTAR) satellites provide protected communications during both strategic (intercontinental) and tactical (theater) conflicts. Two older satellites are already in orbit, though nearing the end of their service life. The Air Force had planned to put four redesigned MILSTAR satellites into orbit over the next several years; it says that number is necessary to maintain complete global communications coverage. Those four satellites—referred to as flight 3 through

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	280	140
2003	430	350
2004	270	350
2005	0	130
2006	0	0
2002-2006	980	970
2002-2011	980	970

flight 6—are collectively known as the MILSTAR II program. But when the flight 3 satellite was launched in April 1999, it failed to reach its intended orbit. The Air Force considers that satellite a loss. Flights 4 and 5 are scheduled for launch in 2001, and flight 6 is expected to be launched in 2002.

This option would aim to get four MILSTAR II satellites into orbit at the earliest feasible date. Thus, it would begin production of a flight 7 satellite immediately and launch it by 2004 using an expendable launch vehicle. Purchasing an additional MILSTAR satellite could cost about $280 million in budget authority in 2002 and almost $1 billion over the next 10 years. That estimate assumes that the launch vehicle would cost about $200 million.

The focus of the MILSTAR program has changed over the years. The first two satellites—flights 1 and 2—were designed to meet the national command authority's requirements for low-data-rate (LDR) communications. Such communications use lower bandwidths that are less likely to be disrupted by nuclear explosions. Those two satellites were launched into orbit in 1994 and 1996. Since then, because the threat of nuclear war has declined greatly in the post-Cold War era, MILSTAR satellites have been redesigned to emphasize their usefulness for tactical forces. For example, later satellites are designed to provide not only LDR capability but also medium-data-rate (MDR) communications, which use higher bandwidths that allow faster processing of information. (MILSTAR satellites can also overcome jamming that would overwhelm other, less robust communication systems.) The average service life of the satellites is about seven years. To replace them, the Air Force is developing advanced extremely high frequency (EHF) satellites, which it plans to begin launching around 2006.

Proponents would argue that buying an additional MILSTAR II satellite now is essential, for three reasons. First, the Air Force says four of those satellites are necessary to ensure 24-hour MDR communications capability over trouble spots around the globe. Consequently, the loss of the flight 3 satellite means at least a 25 percent degradation in that capability by 2006. According to the Air Force, current satellites lack excess capacity, and the enhanced EHF program cannot be accelerated enough to close the gap in coverage significantly, so that gap would persist for at least five years. Second, the Army has already made substantial investments in ground terminals for MILSTAR MDR communications and has eliminated many of its older LDR terminals in anticipation of the switch. Third, construction of the last two MILSTAR satellites is expected to be finished by 2001. By purchasing another satellite now, the Air Force could avoid the significant cost increases that would result from shutting down production temporarily.

Opponents of this option would argue that closing the anticipated gap in coverage is not critical enough to warrant spending $1 billion on another MILSTAR satellite. Rather, they would argue, devoting that money to the next-generation EHF satellites would make more sense given the limited resources that the Department of Defense might face in the next decade. In fact, the Air Force has proposed accelerating the first EHF launch to 2004 by terminating competition in favor of a sole-source award to a team consisting of the same contractors now competing for the contract. In the meantime, opponents might say, the Air Force could fill the gap in strategic communications for several years with its two earlier LDR satellites and could rely on existing Navy satellites to fill some of the gap in tactical communications. □

Option 050-24
Increase Funding for Tactical UAVs

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	133	38
2003	105	91
2004	114	104
2005	114	124
2006	96	126
2002-2006	562	473
2002-2011	1,089	1,061

RELATED CBO PUBLICATION:

Options for Enhancing the Department of Defense's Unmanned Aerial Vehicle Programs (Paper), September 1998.

The Department of Defense maintains that one of its top priorities in the area of reconnaissance and surveillance is to give brigade commanders access to unmanned aerial vehicles (UAVs). The Army has selected the Shadow UAV system to meet the needs of its brigade commanders. The Hunter, a more capable and highly reliable UAV, could do so for the Army's division and corps commanders. The Navy, for its part, is examining several alternatives to replace its current UAV systems, which are old, expensive to maintain, and hazardous to shipboard operations since they are powered by gasoline rather than less dangerous diesel fuel.

This option would provide 40 Shadow tactical UAV systems for the Army's brigades, 14 Hunter systems for the Army's divisions and corps, and 32 diesel-powered UAV systems with vertical take-off and landing (VTOL) capability for the Navy's aircraft carrier battle groups, amphibious ready groups, and surface combat ships. Both the Army and the Navy are planning to spend about $670 million on UAV systems over the next five years, but this option would purchase more systems than they envision. Consequently, it would cost $133 million in budget authority in 2002 and a total of almost $1.1 billion over 10 years. (For an option relating to Air Force UAVs, see option 050-04.)

Unmanned aerial vehicles are a valuable asset to a commander because they can conduct reconnaissance and surveillance missions without risking the lives of an aircrew. UAVs could let brigade commanders view nearly instantaneous video footage of what lay just over the next hill. Higher-echelon commanders could use UAVs to send back imagery of enemy troop movements farther away. UAVs could perform other useful missions, such as locating and identifying particular targets, designating targets for attack by precision munitions, assessing the damage that targets have suffered after an attack, serving as communications relays, jamming an enemy's electronics and communications systems, and operating in environments too dangerous for humans, including areas contaminated by nuclear, chemical, or biological agents.

Although the Army and Navy have said they want to give their forces UAV capability, unmanned aerial vehicles do not appear to have had a high priority. After the Army terminated the Hunter program in 1996, it placed seven Hunter systems (with eight air vehicles apiece) in storage. It has since used most of two of those systems for training, and their performance has been considered outstanding. Nevertheless, the Army appears unwilling to use those systems to give its corps and division commanders UAV capability (although it did use Hunter systems during operations in Kosovo). By reorganizing its existing Hunter assets and buying a little more equipment, the Army could equip 10 divisions with Hunter systems of four air vehicles each and four corps with systems of six air vehicles each.

For their part, the Navy and Marine Corps have been operating Pioneer UAVs since the 1980s and are looking for a replacement. They are testing several UAVs with VTOL capability to fulfill their requirements, but the Navy does not plan to commit funds to buy a new system until at least 2003. This option would acquire greater UAV capability than the Navy now plans.

The option would have several disadvantages, however. The first is the uncertain state of some UAV technology. Several years ago, the Army revised its requirements for tactical UAVs. During the fall of 1999, it held a flight competition of various UAV systems to determine which one could meet its revised requirements. The Shadow 200, built by the AAI Corporation, won that competition. But whether the Army will require more development of that system is not yet clear.

A second disadvantage is that using Hunter UAVs to provide reconnaissance for Army divisions and corps could impose a burden on those units. Hunters typically require a large amount of equipment and personnel to operate them. The Army expects that new UAV systems will be easier to support. However, reducing the size of Hunter systems may be possible with some modest changes and upgrades.

Third, the Army ultimately wants to use the same type of unmanned aerial vehicle to provide reconnaissance and surveillance at the brigade, division, and corps levels. Using Hunter and Shadow would mean having two different types of UAVs for those missions. But fielding a system to provide reconnaissance to divisions and corps might take the Army at least five years. The service could deploy Hunters within several months at a relatively low cost as an interim measure. □

Option 050-25
Convert the Four Oldest Trident Submarines to Carry Conventional Land-Attack Missiles

	Costs or Savings (-) (Millions of dollars) Budget Authority	Outlays
2002	0	0
2003	850	430
2004	870	680
2005	100	400
2006	180	290
2002-2006	2,000	1,800
2002-2011	3,420	3,330

RELATED CBO PUBLICATIONS:

Budgeting for Naval Forces: Structuring Tomorrow's Navy at Today's Funding Level (Study), October 2000.

Rethinking the Trident Force (Study), July 1993.

The Navy currently deploys 18 Trident strategic submarines, which carry nuclear-armed ballistic missiles. Ten of those submarines have D5 missiles, and the other eight are fitted with older C4 missiles, which are less accurate and have a shorter range than D5s (see option 050-17). The Navy plans to upgrade four of the submarines armed with C4s over the next several years so they can carry D5 missiles. It plans to retire the other four submarines (the *Ohio*, *Michigan*, *Florida*, and *Georgia*), which are the oldest Tridents. However, once they were refueled, those submarines would still have about 20 years of useful life. Consequently, some defense analysts, Members of Congress, and Navy officials have proposed converting those submarines from carrying nuclear-armed ballistic missiles to carrying conventional land-attack missiles and special-operations forces.

This option would convert the four oldest Trident submarines to a conventional land-attack configuration rather than retire them. It would alter 22 of the 24 missile tubes on a Trident to carry seven conventional missiles each, for a total of 154 missiles per submarine. That would give each Trident about the same land-attack capability as all of the escort ships in an aircraft carrier battle group. The conventional missiles loaded on Tridents could be Tomahawk cruise missiles or a naval version of the Army Tactical Missile System (a short-range ballistic missile that can attack enemy infrastructure, armor, communications facilities, and command centers). Or, because the Navy will begin producing its advanced land-attack missile, the Tactical Tomahawk, in 2001 and the first two submarines would not be finished with their conversion until 2005, the submarines could be armed with those missiles. The Navy plans to buy 1,350 Tactical Tomahawks for various purposes. This option would purchase another 850 to

arm the submarines and to provide extra missiles for use in maintenance.

In addition to those changes, the four Tridents would receive a full suite of communications equipment as well as tactical-surveillance and intelligence-collection equipment to conduct reconnaissance missions before and during hostilities. Further, the space freed up by the two unused missile tubes would be converted to house special-operations forces.

Taken together, those changes would cost a total of about $3.4 billion in budget authority over 10 years compared with the Clinton Administration's 2001 budget request (which assumed that the Navy will retire the four oldest Trident submarines). Of that total, $2.5 billion would go to refueling the submarines' nuclear reactors, converting them to carry Tomahawk missiles, and purchasing the missiles. The remaining $0.9 billion would represent increased operating costs for the submarines.

By changing four submarines into conventional missile carriers, the Navy could make effective use of a valuable asset that would be well suited to support its doctrine of coastal warfare, as expressed in the white paper *Forward . . . From the Sea*. Some analysts fear that surface combat ships are becoming increasingly vulnerable to attack by antiship missiles in coastal waters. Trident submarines, by contrast, are very difficult to detect and therefore harder to attack. They could provide a powerful capability in areas of potential conflict without revealing their presence. Potential adversaries would know that retaliation for aggression could occur at any time and would be very difficult to prevent or preempt. That knowledge alone could prove an effective deterrent.

In addition, by deploying more Tomahawk missiles on converted Tridents, the Navy would free other ships to perform missions other than land attack. For example, in the future the Navy may need to dedicate a force of Aegis ships for missile defense (see option 050-20). Consequently, those ships may not be available to launch Tomahawks. The Navy is planning to buy 25 surface combatants over the next decade, each carrying dozens, if not hundreds, of land-attack missiles. Rather than buy all of those additional surface ships, the Navy could use the converted Tridents to perform land-attack missions that might otherwise have been done by some of those ships.

This option could have several drawbacks, however. For example, according to naval authority Norman Polmar, Trident submarines could be highly vulnerable to detection when preparing for and executing a land-attack mission. Attacking targets on land usually requires a great deal of communication and data transmission between ships and authorities on shore. That would be especially true if Tridents were carrying Tactical Tomahawk missiles, which were designed for quick reaction and in-flight retargeting. The high volume of communications traffic might enable an opponent to detect the submarine. The Trident could also be vulnerable to detection when it was launching its missiles.

Polmar also questions whether the Navy really needs additional capability to make stealthy strikes. He argues that such strikes were not particularly important during the Gulf War and in subsequent Tomahawk missile operations, and they may be no more valuable in the future. If that proves to be the case, the value of converting Trident submarines is less clear.

In addition, altering the Tridents would have implications for the size of the strategic weapons force. Under the terms of the Strategic Arms Reduction Treaties, ballistic missile submarines can only be converted to perform other missions using a specific method that eliminates their missile tubes. According to information provided by the Navy, converting the submarines to eliminate the missile tubes would nearly double the cost of this option. If the Navy converted the Tridents using a less expensive method that essentially left the missile tubes intact—as this option assumes—the United States would have to count those tubes under the terms of START and allocate "phantom" warheads to them. (Russia might agree to allow a less expensive conversion procedure, but that appears unlikely.) With respect to the force levels under START I, the additional phantom warheads would make no difference. But under START II—as currently negotiated—the United States would

be allowed to deploy only about 1,350 warheads on the Trident force, about 330 less than the Navy is planning. □

Option 050-26
Buy Six Diesel-Electric Submarines for Antisubmarine Warfare Training

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	600	40
2003	700	150
2004	700	300
2005	30	410
2006	50	410
2002-2006	2,080	1,310
2002-2011	2,500	2,410

The task of locating and destroying enemy submarines—antisubmarine warfare (ASW)—has changed substantially since the collapse of the Soviet Union. During the Cold War, the Navy directed its ASW efforts against Soviet nuclear-propelled submarines in the open ocean. Today, however, the most likely submarine threat to U.S. naval forces (and commercial shipping) is small, quiet, diesel-electric submarines, according to the Navy.

This option would buy six diesel-electric submarines that the Navy could use as an "aggressor" force in ASW training. Specifically, the option would buy two Russian Kilo class submarines and two German Type 209 submarines (the most common types the Navy might encounter) as well as two submarines with air-independent propulsion (AIP) systems. It would create two aggressor units of three boats each, one assigned to the Atlantic Fleet and one to the Pacific Fleet. Buying and operating those submarines would cost $2.5 billion in budget authority between 2002 and 2011.

Submarines with AIP systems represent perhaps the most dangerous threat ever to U.S. maritime interests. In the course of operations, diesel-electric submarines must come up to shallow water every few days to "snorkel" (that is, run their diesel engines to recharge their batteries and draw in fresh air). But AIP submarines can operate for up to 30 days at low speeds without surfacing. They, like regular diesel-electric submarines, are quiet when submerged—significantly quieter than the nuclear-powered submarines that make up the current U.S. attack fleet.

Some analysts argue that the Navy is not very good at locating diesel-electric submarines, especially in noisy, shallower waters near coastal areas. Exercises with allied navies that use diesel-electric submarines confirm that problem. U.S. antisubmarine units reportedly have had trouble detecting and countering diesel-electric submarines of South American countries. Israeli diesel-electric submarines, which until recently were relatively old, are said to always "sink" some of the large and powerful warships of the U.S. Sixth Fleet in exercises. And most recently, an Australian Collins class submarine penetrated a U.S. carrier battle group and was in a position to sink an aircraft carrier during exercises off Hawaii in May 2000. Thus, if a real opponent had even one such submarine with a competent commanding officer and crew, it could dramatically limit the freedom of action of U.S. naval forces in future conflicts.

The Navy cannot effectively use only its own submarines for ASW training. Because all of its attack submarines are nuclear powered, they are not valid surrogates for diesel-electric subs. They are much larger and have very different sonar "signatures" than the diesel-electric submarines found in other countries' fleets.

Opponents of this option would say that the United States does not need to buy its own force of diesel-electric submarines. Some critics might argue that the threat from other countries' diesel-electric subs is exaggerated. Most countries do not have the high-quality crews that are necessary for such submarines to pose an effective threat to U.S. naval forces. Other critics of this option might suggest that the United States could exercise more with allied navies,

especially since in the future it is likely to fight wars as a member of a coalition.

Supporters of this option could counter that although more interaction with allied navies might be useful, exercises with countries that have diesel-electric submarines are not frequent and are relatively limited in the amount of time available for ASW practice. By buying six diesel-electric submarines, the Navy would have a realistic opponent against which its forces could train in antisubmarine warfare on a regular basis. □

Ending or Slowing Some Acquisition Programs to Pay for New Initiatives

Finding the funds to support all of DoD's desired initiatives could be a problem. Part of the task of acquisition managers is to identify systems in development or production that no longer fit well with DoD's new strategic or operational concepts and to cancel those systems. A few options that would do so are included below.

Army systems are particularly subject to reexamination because the Chief of Staff, General Eric Shinseki, has called for a new Army built around units with lighter equipment that would be more deployable to small-scale operations as well as to major theater wars (see option 050-13). The heavy armored forces of the current Army are well suited to conventional land wars. But Army leaders now feel that those forces are simply too heavy and require too much support to be dispatched quickly around the world.

The options below would affect the modernization programs of the other military services as well. In particular, all of the services are seeking to develop and purchase new and more capable aircraft to replace aircraft operated today. Proponents of the options to end or slow such programs would argue that today's equipment is already more capable than that of potential adversaries and that any problems caused by aging can be addressed in other ways, such as extending service lives or selectively buying new production units of today's equipment types.

Option 050-27
Cancel the Army's Comanche Helicopter Program

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-167	-154
2003	-434	-355
2004	-281	-385
2005	-536	-296
2006	-642	-420
2002-2006	-2,059	-1,610
2002-2011	-8,565	-7,089

RELATED CBO PUBLICATIONS:

An Analysis of U.S. Army Helicopter Programs (Study), December 1995.

Options for Enhancing the Department of Defense's Unmanned Aerial Vehicle Programs (Paper), September 1998.

Many of the Army's helicopters are beyond the end of their useful service life. Initially, the Army had planned to replace some of those older scout, attack, and utility helicopters with more than 5,000 new Comanche (RAH-66) helicopters. Comanche has had a troubled development program, however. The utility version of the helicopter was dropped in 1988 because the program had become too costly. In 1990, the size of the planned purchase was reduced from more than 2,000 aircraft to just under 1,300. Later, the Army delayed the projected start of Comanche production from 1996 to 2005.

Those changes have caused the procurement cost per helicopter to more than double since the program began—from $11.5 million (in 2001 dollars) in 1985 to $24.5 million, based on current Army estimates. With that cost growth, Comanche is now more expensive than the Army's Apache (AH-64) attack helicopter, even though it was developed to be less

costly to buy, operate, and maintain than other attack helicopters. Moreover, the General Accounting Office (GAO) and the Department of Defense's Inspector General (DoD IG) have stated that costs could grow by as much as another 30 percent. In addition, GAO has reported that there are significant risks that Comanche will enter service later than expected and will not work as well as planned.

This option would cancel the Comanche program and would buy 500 Kiowa Warrior armed scout helicopters by the end of 2011. Net savings would total nearly $8.6 billion in budget authority during the 2002-2011 period.

The primary advantage of Comanche over existing aircraft is its sophisticated stealth, avionics, and aeronautics technologies. However, some analysts would argue that the helicopter, which was conceived at the height of the Cold War, will no longer face threats of the same scale or sophistication as those for which it was designed. According to the DoD IG, the Army has not reexamined the mission requirements for Comanche in any depth since the end of the Cold War (although it will need to do so in the context of the Army Chief of Staff's transformation plan). Comanche is intended both to serve as a scout for Apache and to fill the scout and light attack role independently. But whether Comanche really does have a unique role to play in Army aviation is unclear. The Army is planning to use Apaches in both scout and attack roles for the next 15 to 20 years, as it did successfully during the Persian Gulf War. The Army also used Kiowa Warriors in the Persian Gulf both as scouts for Apache and as light attack aircraft. Moreover, the Army could use unmanned aerial vehicles for some scout functions (see option 050-24). According to former Secretary of Defense William Cohen, U.S. forces used UAVs as scouts in Kosovo effectively and without the risk of losing aircrews.

If the Comanche program was cancelled, some of the savings could be used to fund a program to continue development of advanced helicopter technologies. However, abandoning the Comanche program would mean that the Army would have to rely on helicopters designed in the 1960s and 1970s for years to come. ◻

Option 050-28
Cancel the Army's Crusader Artillery Program

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-226	-131
2003	-334	-277
2004	-93	-262
2005	-13	-186
2006	-116	-154
2002-2006	-782	-1,009
2002-2011	-4,283	-2,764

The Army plans to spend $9.6 billion in the future to finish developing and procuring the Crusader self-propelled artillery system. It considers Crusader to be more technologically advanced and significantly more effective than the service's current artillery systems.

This option would cancel the Crusader program and instead provide funds to buy 480 German Panzerhaubitze (PzH) 2000 self-propelled howitzers (with resupply vehicles). The General Accounting Office (GAO) has identified the PzH 2000 as a viable alternative to Crusader. According to GAO, the German howitzer can fire eight to 10 rounds per minute, which is close to—but slightly below—the Army's requirement for Crusader. The PzH 2000's cross-country speed, sustained rate of fire, firing range, and rearming time are all within the ranges required for Crusader. Purchasing the PzH 2000 could hedge against potential threats now while freeing up $4.3 billion in budget authority over 10 years.

Supporters of Crusader cite several reasons why it is needed. Paladin, the Army's most modern artillery system, is too slow to keep up with other combat vehicles when armored forces advance. Paladin's

range is shorter than that of several foreign systems that might be fielded by potential adversaries. And its peak firing rate of four rounds per minute is significantly slower than the 10 to 12 rounds per minute that the Army says it needs. Crusader's current design includes an automated resupply system, which makes possible a higher firing rate and reduces the crew size to six from Paladin's nine. Crusader is also designed with more sophisticated automation and better crew protection than Paladin, and it incorporates many advanced artillery technologies.

Opponents cite three problems with Crusader. First, they question whether such a heavy system has a role in the lighter, more mobile force envisioned for the future Army. Second, some critics question whether Crusader will really deliver the promised improvements. Some of its subsystems embody technological innovations that have not yet been proved, and some have no backups in case of failure. (For example, if the automatic munition reloader fails, Crusader will not be able to fire at all; it cannot be loaded manually.) Those technical risks could prevent Crusader from meeting some of the Army's key requirements, in which case it might be no more effective than current systems. Third, Crusader's acquisition cost has increased from $17 million apiece to $21 million since the Army restructured the program and reduced its planned purchase from 1,138 to 480. That higher price tag brings into question Crusader's cost-effectiveness compared with other systems such as the PzH 2000.

Another issue is whether an Army undergoing transformation should invest in *any* new self-propelled artillery system. The Army's current plan calls for Crusader to be used in heavily armored brigades beginning in 2008. However, the Army also plans to transform those brigades to the lighter "objective force" structure starting in 2017 (see option 050-13). Investing in a system that may be used for only one-third of its expected service life might not be the best use of limited funds. □

Option 050-29
Reduce Procurement of the Virginia Class Submarine

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	0	0
2003	0	0
2004	-70	-10
2005	-460	-40
2006	-490	30
2002-2006	-1,020	-20
2002-2011	-3,350	-2,400

RELATED CBO PUBLICATION:

Budgeting for Naval Forces: Structuring Tomorrow's Navy at Today's Funding Level (Study), October 2000.

In 1999, the Chairman of the Joint Chiefs of Staff (CJCS) released a study calling for a force of 55 to 68 attack submarines, of which 18 should be the new Virginia class submarines by 2015. Subsequently, the Department of Defense decided that 55 submarines would be the force goal (up from 50 in the 1997 Quadrennial Defense Review). To modernize its submarine force, the Navy plans to buy one Virginia class sub per year from 2001 to 2006 and two or three per year between 2007 and 2011. At the same time, it plans to retire seven Los Angeles class submarines by 2008. Those subs would still have years of useful life remaining, however, if their nuclear reactors were refueled.

This option would refuel the reactors to keep those Los Angeles class submarines in service. It would procure 16 Virginia class submarines, three fewer than the Navy plans. Those changes would produce net savings of almost $3.4 billion in budget authority over the next 10 years and still maintain a force of at least 55 attack submarines through 2018. (For a discussion of increasing the attack submarine

force to 68, see option 050-01.) However, the Navy would have only 13 Virginia class submarines by the CJCS's target date of 2015.

Currently, the Navy's retirement schedule for Los Angeles class submarines is still based on the goal of maintaining a force of only 50 attack submarines, as the 1997 QDR recommended. However, the Clinton Administration's budget request for 2001 included about $1.1 billion for the Navy to enlarge its attack submarine force, either by refueling four of the seven Los Angeles class submarines slated for early retirement or by converting two Trident submarines to carry Tomahawk missiles (see option 050-25). The Congress has agreed to the enlargement plan in principle, providing $31 million in 2001 for some items that can be used to refuel a nuclear submarine. The rest of the money would be authorized in 2002 through 2005. The Navy has not yet determined which alternative to pursue, but it is likely to inform the Congress of its choice in 2001.

Although this option would save money, it would leave the Navy with a slightly less capable submarine force. The Virginia is the newest and most quiet submarine the Navy has ever designed—substantially quieter than the Los Angeles class. It will also have a more sophisticated array of sensors and a longer-lasting reactor. If the Navy leadership chooses to refuel four Los Angeles class subs, the submarine force would consist of 34 to 36 Los Angeles class submarines, 16 Virginia class submarines, and three Seawolf class submarines by 2015, under the Navy's current plan. The Navy would achieve the CJCS's goal of 18 Virginia class submarines in 2016. Under this option, by contrast, the Navy would have 38 to 39 Los Angeles subs, 13 Virginias, and three Seawolfs by 2015, and it would not reach 18 Virginias until 2017. For the next several decades, the Navy would have fewer Virginias under this option than under its current plan. □

Option 050-30-A
Defer Purchases of the Marine Corps's V-22 Aircraft

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	0	0
2003	0	0
2004	0	0
2005	0	0
2006	-551	-83
2002-2006	-551	-83
2002-2011	-3,475	-2,403

The V-22 aircraft, which entered production in 1997, is designed to help the Marine Corps perform its amphibious assault mission (seizing a beachhead in hostile territory) and its subsequent operations ashore. The V-22 can transport up to 24 marines, or 10,000 pounds of their equipment, from ship to shore. The plane's tilt-rotor technology enables it to take off and land vertically like a helicopter and, by tilting its rotor assemblies into a horizontal position, to become a propeller-driven airplane when in forward flight. As a result, the V-22 can fly faster than conventional helicopters. The Marine Corps argues that the plane's increased speed and other design features make it less vulnerable than other aircraft when flying over enemy terrain and enable it to provide over-the-horizon amphibious assault capability. In addition, the V-22 is designed to fly longer distances than conventional helicopters without refueling. Thus, it can fly directly to distant theaters rather than being transported on planes or ships, as many helicopters are.

Despite all of those advantages, the Bush Administration tried in 1990 to cancel the V-22, largely because of its price tag. Each aircraft bought for the Marine Corps is expected to have a unit procurement cost of $65 million, on average—considerably more than most conventional helicopters. That cost is about 7 percent higher than the Marine Corps expected last year, and it seems likely to grow further. Nevertheless, the Congress has continued to fund the V-22, and the Marine Corps plans to buy a total of 360 planes. (The Air Force may eventually buy 50 V-22s for its special-operations forces, and the Navy

plans to buy 48 for combat search-and-rescue missions and for logistics support of its fleet.)

The Marine Corps expects to acquire several other planes at the same time. During many of the years that it is purchasing V-22s, it also plans to buy large numbers of Joint Strike Fighters to replace its short-range bombers and its F/A-18 fighter/attack aircraft. JSFs are expected to be relatively inexpensive as tactical fighters go (perhaps 60 percent of the price of the Air Force's sophisticated F-22). But when bought in quantity and combined with the cost of the V-22, their purchase would bring peak annual spending on the V-22 and JSF to about $5.7 billion —roughly four times the amount requested for Marine Corps combat aircraft in the Clinton Administration's fiscal year 2001 budget. (Technically, the V-22 and JSF are bought with Navy procurement funds.) If the Department of the Navy cannot increase funding for those aircraft, it may have to modernize either its fighter fleet, its airborne amphibious assault fleet, or both more slowly.

This option would halve the Marine Corps's annual procurement of V-22s during the 2006-2011 period, when both V-22s and JSFs would be bought. As a result, the service's average funding requirements during those years would decrease to about $5 billion. That sum may be more manageable than the Marine Corps's current plan and would save almost $3.5 billion in budget authority over 10 years.

Deferring purchases of V-22s would have drawbacks, however. The current amphibious assault fleet is made up of CH-46 and CH-53 helicopters that are more than 30 years old, on average. The CH-46s would remain in the fleet until their average age approached 50 if the V-22s deferred under this option were bought beginning in 2013, when planned V-22 purchases decrease sharply. (If the Marines had to engage in an extensive modification effort to retain the CH-46s or CH-53s longer, the savings from this option would be lower.) Also, the amphibious assault fleet provides more unique services than the Corps's fighter/attack fleet. The Marines can probably count on the Navy's carrier-based F/A-18 aircraft to provide them with additional firepower, but they cannot get aerial amphibious assault assets anywhere else. Also, cutting V-22 purchases might decrease the Corps's ability to perform peacekeeping missions and other smaller-scale contingency operations, which have grown more frequent in recent years. □

Option 050-30-B
Cancel Production of the V-22 Aircraft

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-1,259	-195
2003	-1,989	-680
2004	-1,756	-1,307
2005	-1,317	-1,614
2006	-898	-1,475
2002-2006	-7,218	-5,270
2002-2011	-9,550	-8,635

Instead of deferring procurement of the V-22 tiltrotor aircraft (as in the previous option), the Department of Defense could cancel the program altogether. If it did so, DoD might instead buy conventional helicopters for the Marine Corps. Several helicopters have been proposed as alternatives to the V-22:

- The CH-60, a variant of the Army's Blackhawk helicopter that the Navy chose instead of the V-22 to replace the aging CH-46s it uses in transport missions;
- The CH-53, which the Marines already use for heavy amphibious lift missions; or
- A military version of the S-92, a commercial transport helicopter developed by the Sikorsky Aircraft Corporation. Like the V-22, its capacity to carry troops and equipment falls between those of the CH-60 and the CH-53E.

This option would buy a mix of CH-53E and S-92 helicopters instead of the V-22, at a savings of about $1.3 billion in budget authority in 2002 and $9.6 billion over 10 years.

Critics of the V-22 have questioned whether the new aircraft will demonstrate enough improved capabilities to justify its higher cost. Some critics point to a November 2000 report by the Director of Operational Testing and Evaluation in the Office of the Secretary of Defense (OSD), which expressed concern about whether the V-22 will actually be able to land and take off quickly enough to have a higher survival rate than current helicopters.

The OSD report also raised concern about the V-22's low rate of availability (which results when planes break down frequently or take a long time to fix). If uncorrected, low availability could significantly reduce the cost-effectiveness of the V-22. According to the report, the V-22s that were tested were ready to perform their missions (mission capable) only 36 percent to 57 percent of the time, in contrast to the Marine Corps's desired rate of 82 percent. By comparison, the Army's Blackhawk had a mission-capable rate of about 80 percent, on average, over the past year, and even the aging CH-46 helicopter that the V-22 is intended to replace has a mission-capable rate of 79 percent. (Despite its concerns, the OSD report endorsed a continuation of flight testing for the V-22, although it recommended that testing be completed before the V-22 is deployed.)

Worries about the plane's safety could also prompt its cancellation. Four V-22s have crashed since the plane began flying, including two last year —one in April and one in December. Both of those planes were engaged in testing the V-22 in operational environments; the aircraft that crashed in December was performing what the Marine Corps described as standard night operations. An earlier version of the V-22 suffered a fatal mishap in 1992, and another plane was destroyed in 1991. (A tilt-rotor predecessor of the V-22 also crashed.)

Of the 14 V-22s that have been bought for developmental flight testing or allocated to operational flight testing, three (or 21 percent) have been lost. (The fourth was lost on a routine training flight, not as part of flight testing.) That percentage is much lower than the 50 percent loss rate experienced by the Marine Corps's CH-53 helicopter during its testing. It is only modestly higher than the 17 percent loss rate of the Blackhawk or the Army's early-model Apache attack helicopter during testing. However, none of the five prototypes of the S-92 or the five prototypes of the SH-60 (a seagoing variant of the Blackhawk) have crashed.

V-22s have also been grounded several times in the past year for safety reviews. They were grounded for two months following the April 2000 crash, for a shorter period in August (after a V-22 had to make a forced landing because of a safety-related problem), and again after the December crash.

If further flight problems or concerns about cost-effectiveness led to the cancellation of the V-22, some replacement would be needed for the Marine Corps's amphibious lift forces. This option assumes that DoD would buy a total of 360 S-92s for amphibious lift in place of an equal number of V-22s. (Only 215 of those S-92s would be bought through 2011, however—118 fewer than the number of V-22s that would have been bought by then. The slower acquisition occurs because modifying the S-92 for maritime missions and testing the plane are assumed to take several years.) The S-92 can transport almost as many troops as the V-22 (22 versus 24) and carry almost as much weight (external loads of up to 9,000 pounds instead of a maximum load of 10,000 pounds for the V-22).

In addition, buying 10 CH-53Es would add the capacity for another 360,000 pounds of equipment or 550 troops. Together with the S-92s, those CH-53Es would provide almost as much lift and troop carriage as 360 V-22s. However, other analyses of alternatives to the V-22 have called for purchasing more conventional helicopters to compensate for the slower delivery speeds and potentially reduced survivability associated with not having V-22s. Consequently, this option would buy a total of 80 CH-53Es from 2002 though 2011, at a rate of eight per year, to offset lost lift.

Critics of cancellation would argue that conventional helicopters cannot perform amphibious operations as quickly or safely as V-22s. The latter can fly faster and carry more equipment (or carry it longer distances) than helicopters can, so Marine forces with V-22s could build up combat power ashore—especially from long distances—more quickly than forces with helicopters. As a result, their amphibious assaults could prove less risky. There are other risks

associated with using helicopters: slower ones could present a target to ground-to-air missiles for longer periods, and some types, including perhaps the S-92, might have larger areas that are vulnerable to small-arms fire than the V-22 does.

In addition, unlike the V-22, the helicopters purchased in this option might not be able to self-deploy (fly from their base directly to a theater of operations rather than being partially disassembled and carried on a transport aircraft). They also lack other improvements that the Marine Corps hopes to achieve with the V-22, including systems that give pilots better information about potential threats.

Furthermore, conventional helicopters might not fly fast enough to fulfill some of the Air Force's stated requirements for its special-operations forces. Consequently, this option would not purchase any alternative to the V-22 for the Air Force's special-operations missions. (The Air Force expects to buy 50 V-22s by 2007 for those missions. If some other plane was bought instead, the savings from this option would be lower.) □

Option 050-31-A
Reduce Purchases of the Air Force's F-22 Fighter

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-360	-65
2003	-1,863	-487
2004	-1,799	-1,198
2005	-1,664	-1,559
2006	-1,774	-1,649
2002-2006	-7,460	-4,957
2002-2011	-25,312	-20,280

RELATED CBO PUBLICATION:

A Look at Tomorrow's Tactical Air Forces (Study), January 1997.

The F-22 is being developed as the Air Force's next premier fighter aircraft and is scheduled to begin replacing the F-15 soon. But the plane has experienced repeated delays, reductions in quantity, and increases in cost during the more than 20 years that the Department of Defense has discussed a replacement for the F-15. This option would decrease the planned purchase of F-22s by 219 planes. Assuming that the reduction was evenly distributed over the F-22's purchase period, it would save a total of $25.3 billion in budget authority through 2011.

The Air Force originally planned to buy more than 800 F-22s. After a series of cuts, the latest plan will buy only 339 aircraft—enough for about three air wings. Even if the Air Force makes no further cuts to planned purchases, it will have to pay $120 million apiece for the F-22. That price will purchase a number of improvements in capability over other fighters. Even so, the F-22's cost makes it the most expensive fighter ever built.

The F-22 is the only new tactical fighter program to survive from the Cold War period. (The other two fighters that DoD is planning—the Joint Strike Fighter and the Navy's F/A-18E/F—entered development after 1990. They are likely to be both less capable and less expensive than the F-22, although they may face many of the same threats.) The F-22's sophistication and cost, plus concerns about whether it will actually realize promised improvements in capability, have led some people to suggest that the F-22 is a legacy of the Cold War—a plane designed to fight many sophisticated Soviet fighters rather than the modest regional fighter forces it is more likely to encounter today. Such critics recommend canceling the program, or at least cutting planned procurement further.

In its report on its fiscal year 2000 defense appropriation bill, the defense subcommittee of the House Committee on Appropriations expressed concerns about the plane's cost and capability. The Senate concurred and the Congress directed DoD to complete testing of the F-22 before spending procurement funds on production. The Air Force argues that it has completed all of the testing ordered by the Congress, although it has not received approval from the Administration to enter the next phase of production.

The Air Force could reduce production quantities to a total of 120 F-22s, enough to let the service field one air wing of the sophisticated fighters. Such a "silver-bullet" purchase would allow the Air Force to learn lessons about producing aircraft of the F-22's technological complexity but might still leave more than enough planes to perform the missions for which the service needs the F-22's degree of stealth and other performance advantages.

One possible disadvantage of this option is that it would make the Air Force's fighter fleets, which are already aging under current plans, even older. However, buying 219 F-15s to replace the cut in F-22s would remedy that problem (see option 050-14). Although the F-15 is much less capable than the F-22, it is far more capable than the fighters of almost any of the United States' regional adversaries. A one-for-one offset of F-15s for F-22s would lower the 10-year savings from this option to $10.7 billion. □

Option 050-31-B
Cancel Production of the F-22 Fighter

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-4,056	-900
2003	-5,726	-2,833
2004	-5,282	-4,310
2005	-4,878	-4,828
2006	-4,674	-4,813
2002-2006	-24,616	-17,685
2002-2011	-44,985	-39,831

RELATED CBO PUBLICATION:

A Look at Tomorrow's Tactical Air Forces (Study), January 1997.

As the previous option discussed, the Air Force has great hopes for its new F-22 fighter, but the aircraft's development program has experienced numerous delays, reductions in quantity, and cost increases over the years. If the program does not deliver as promised—or if leaders in the Congress and the Department of Defense decide that the plane's capabilities are more expensive than they are worth—the F-22 could be canceled. Doing that without making any provisions for replacing the plane would save $4.1 billion in budget authority in 2002 and a total of $45 billion over 10 years. If F-22 purchases were offset with F-15s, savings would drop to $3.1 billion in 2002 and $24 billion over 10 years.

Outright cancellation would save more money than a "silver-bullet" purchase of F-22s (as described in option 050-31-A). But it would have several disadvantages. First, cancellation of the F-22 could affect development of the Joint Strike Fighter, since DoD expects the two planes to have common design elements. Second, the U.S. military might need the F-22's stealthy design and other characteristics if other countries improved their fighter capabilities. Third, if beginning another top-of-the-line fighter program to replace the F-22 proved necessary, some of the costs already incurred in developing the F-22 could be paid again in a new development program, adding to the government's overall costs. Finally, only part of the amount appropriated for the F-22 in 2001 might be recovered by the government, since some funds may already have been spent. □

Option 050-32
Slow the Schedule of the Joint Strike Fighter Program

The Joint Strike Fighter (JSF) program is one of the military's most ambitious aircraft development programs. Teams of contractors are competing to develop three versions of the aircraft: an inexpensive multirole fighter for the Air Force; a longer-range, stealthy, ground-attack plane for the Navy; and a short-takeoff/vertical-landing fighter for the Marine Corps. Together, those planes account for two-thirds of the fighter aircraft the military expects to buy

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-512	-300
2003	-610	-529
2004	-457	-499
2005	-197	-277
2006	-890	-163
2002-2006	-2,666	-1,768
2002-2011	-22,450	-16,168

RELATED CBO PUBLICATION:

A Look at Tomorrow's Tactical Air Forces (Study), January 1997.

through 2020 and roughly two-thirds of the spending on new tactical fighters, by CBO's estimate. Their costs are expected to total $225 billion in budget authority (in 2001 dollars).

This option would defer purchasing the first JSFs until 2008—three years later than the Department of Defense now plans. A slowdown in development and production would give the program more time to clear development hurdles and would decrease funding requirements by $2.7 billion over the next five years and $22.5 billion through 2011.

The JSF's development could prove very challenging. Variants of the aircraft are intended to perform significantly different missions, although the planes themselves are expected to have much in common. JSFs are also supposed to be more capable than the aircraft they replace but only slightly more expensive, if at all. Addressing those seemingly inconsistent goals at the same time could take longer than the program manager and contractors now envision.

In addition, the program's schedule is tight compared with that of the only other full-fledged development program for a fighter, the Air Force's F-22 air-superiority aircraft. The Joint Strike Fighter became a major defense acquisition program in May 1996; under the current schedule, the first formal review will take place in 2001, when the program is scheduled to enter the engineering and manufacturing stage of development (EMD). The JSF would then enter production in 2005, just four years after EMD began and nine years after the aircraft became a major acquisition program. The F-22 program, by contrast, has already been running for about 15 years and may take another year or more to enter low-rate production (see options 050-31-A and 050-31-B). The current JSF schedule is about 80 percent longer than that of the development program for another fighter, the Navy's F/A-18E/F, but that program needed only to modify an existing aircraft.

The JSF program has already had trouble keeping to its planned schedule and may encounter even greater delays in the future. Both of the contractor teams had expected to build and fly two prototypes before October 2000, but only one of those four aircraft had flown by then. As a result of that delay, the demonstration phase of the JSF program is behind schedule, although the program office has not yet released a revised schedule. Even longer delays might be associated with the next stage of development since it is much more challenging than the demonstration phase.

Slowing the schedule of the JSF program would let DoD better plan its future courses of action for tactical fighter fleets. For example, if DoD knew that it would have to wait longer to receive Joint Strike Fighters, it might choose to keep the production lines of current-generation aircraft open longer than it now plans. Also, successfully anticipating delays in the JSF program might improve DoD's ability to fashion plans for modifying current aircraft to make them last longer.

Opponents of slowing the schedule for JSFs could cite a number of concerns. Any up-front savings from lengthening the program, they might argue, would be offset by higher total costs. In addition, delays would mean that DoD's fighter fleets, which will already be much older, on average, than they were in the past, will grow even older before they are replaced. As a result, delays might mean that DoD would have to pay modification costs that it could otherwise avoid and would have fewer fighters available as they underwent age-related repairs. □

Option 050-33
Cancel the DD-21 Land-Attack Destroyer and Buy Smaller Ships

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-60	-40
2003	-290	-190
2004	-600	-300
2005	-2,260	-530
2006	-530	-260
2002-2006	-3,740	-1,320
2002-2011	-6,560	-5,370

RELATED CBO PUBLICATION:

Budgeting for Naval Forces: Structuring Tommorrow's Navy at Today's Funding Level (Study), October 2000.

The Navy is developing a new generation of destroyer, the DD-21 Zumwalt class. That ship is expected to carry hundreds of missiles and is being designed principally to attack targets on land, although it will be able to perform other missions, such as antisubmarine warfare. The Navy hopes to buy 32 of the ships at a total cost of $30 billion to $35 billion.

This option would cancel the DD-21 program and devote the entire savings to developing and buying 45 to 50 smaller warships more suited to coastal operations and the routine policing that the Navy usually performs. As a result of that reuse of savings, the option would have no net long-term impact on the Navy's budget. Between 2002 and 2011, however, the option would save a total of $6.6 billion in budget authority because it would delay acquisition of the first new ship by three years (compared with the schedule for the DD-21). Those savings would result even though this option assumes that developing the new warships would cost $1 billion more than developing the DD-21.

The DD-21 is intended to replace both the Oliver Perry class frigate and the Spruance class destroyer. The Navy plans to retire all of its frigates by 2018. Once that is done, it will not have a surface warship smaller than a destroyer. Thus, the Navy will have to either forgo some missions or use a larger warship to perform missions that were once done by smaller ships. Moreover, the DD-21 is a ship that appears to be designed for major wars. With a displacement of 12,000 tons, it will be larger than any other surface combatant in the Navy.

Supporters of canceling the DD-21 would argue that land attack is not the right focus for the Navy's new class of surface combatants. According to the Office of Naval Intelligence, the most likely maritime challenges that the United States and its allies will face include drug smuggling, violations of economic sanctions, illegal immigration, and arms trafficking. In addition to frigates, the Navy regularly uses cruisers and destroyers to help the Coast Guard and other agencies catch drug runners or thwart mass migrations. The use of those large, expensive warships for such policing duties will only become more pronounced as the Navy retires its smaller ships.

Similarly, the most likely military threats to U.S. naval forces in the foreseeable future include mines, inexpensive antiship cruise missiles, and diesel-electric submarines (see option 050-26). Although the Navy's larger warships are somewhat more capable than smaller ships of defending themselves against such threats, they also represent a much more attractive target. A smaller ship would not only be better suited to the policing duties described above but also represent a less costly target that could be used in operations that do not require a larger, more expensive vessel.

Canceling the DD-21 would have a number of disadvantages, however. First, the program is perhaps the most innovative that the Navy is now pursuing. The DD-21 is intended to have a completely new design; use a new, efficient power system; and operate with a relatively small crew. Other Navy development programs are expected to benefit from the research and innovation being pursued on the DD-21. Consequently, canceling that program now could disrupt the process of innovation in ship design for the Navy.

Second, until a new ship design was developed, canceling the DD-21 could have implications for the shipyards that build surface combatants. Unless a replacement class was ready to be ordered by 2005 (when the first DD-21 is scheduled to be ordered), canceling the new destroyer would mean either that the Navy would have to continue buying DDG-51s (Arleigh Burke class destroyers) at a low rate or that one of the shipyards might have to close. (Accordingly, this option would buy two more DDG-51s to help alleviate that problem.)

Third, fire support for the Marine Corps would suffer in the absence of the DD-21. The largest gun in the Navy's fleet today has a caliber of five inches. The DD-21 is supposed to have two 155-millimeter guns (slightly larger than a six-inch gun) to provide fire support for amphibious landings and Marine operations on shore. Among other advantages, 155mm guns will have a much longer range and be three times as powerful as the current five-inch guns. □

Supporting Military Forces: Personnel, Equipment, and Facilities

Although military capability depends on having the right size and configuration of forces with modern weapons, it also depends on how well those forces are supported. Do they have adequate numbers of experienced, trained personnel? Are the equipment and facilities they use in good condition? The options in the rest of this chapter focus on the personnel, equipment, and facilities that support the readiness of U.S. forces. They include options that would provide more funding for such resources as well as options that might allow DoD to meet its readiness goals at lower cost by changing the way it manages its resources.

Resources and Readiness

The readiness of U.S. forces to perform their missions is difficult to measure in peacetime. Consequently, efforts to assess readiness typically focus on inputs—the level of resources devoted to readiness —rather than on outputs. Traditional quantitative indicators of readiness compare units' resources (training, supplies, the condition of equipment, and the number, grade, and skill distribution of personnel) with standards based on wartime requirements. Other indicators of readiness examine the quality of recruits entering the force and the quality of the facilities in which service members live and work. Intangible factors, such as leadership and morale, also play an important role in readiness but are less easily quantified.

Developing objective assessments of readiness is difficult because of the large number of potentially divergent indicators, the potential for forces to be ready for one type of mission but not for another, and the subjective nature of some aspects of readiness. Uncertainty about levels of readiness and trends in those levels is particularly pronounced today. On the one hand, there is clear evidence that some important indicators of readiness—such as mission-capable rates for aircraft—have fallen below the levels seen in 1989, before the drawdown of U.S. forces began. On the other hand, funding for readiness, measured by spending on operation and maintenance per active-duty service member, is at a historic peak.

Reports of Readiness Problems. Although DoD leaders say the overall readiness of their forces has improved in recent months, each of the services continues to report problems with personnel, equipment, or both.[5] Observers who believe that current resources are inadequate given the size and frequency of U.S. deployments can point to a number of negative factors.

With the exception of the Marine Corps, each of the services reports ongoing readiness problems due to personnel issues. The Army reports shortages of captains and of enlisted personnel with critical skills. In addition, the Army's effort to fully staff its combat units has left its support structure, including its training facilities, undermanned; according to a recent report, 12 of the Army's 20 training centers are at the

5. Department of Defense, *Monthly Readiness Report to the Congress* (August 2000), p. 2.

lowest readiness level (C-4).[6] The Navy reports shortages of lieutenants and surface warfare officers. Its retention of enlisted personnel is also below desired levels. In the Air Force, shortfalls in the number of pilots and experienced maintenance personnel remain key issues.

The Marine Corps, Navy, and Air Force also continue to express concern about the condition of their equipment. The Air Force reports that mission-capable rates for its aircraft have declined by 10 percentage points (from 83 percent to 73 percent) since 1991. A report by the Navy Inspector General indicates that shortages of spare parts have limited the training of nondeployed carrier air wings and may have contributed to the poor performance of some aircraft in bombing runs in Serbia.[7] The Marine Corps reports that aging and corrosion have increased the use of parts and the time required for maintenance.

Interpreting Current Trends. Readiness has clearly declined in some areas. But in many cases, the implications for national security and defense budgets are unclear. DoD and the Congress may already have taken the actions necessary to fix existing readiness problems, or the reported problems may not threaten national security, or additional funding may not be the most appropriate solution.

Determining the policy implications of reported problems is complicated by the fact that some of those problems are spotty, affecting one service but not another. For example, in 1999, retention rates for Air Force enlisted personnel in their first and second terms of enlistment were at the lowest level in almost 20 years. But the Army experienced unusually high retention rates that year and continues to exceed its retention goals. Such a pattern makes it difficult to generalize about the adequacy of military compensation and quality-of-life programs.

Another complication is that people who favor more resources for readiness often overstate their case by measuring declines in readiness indicators from some high level that existed only under exceptional circumstances. For example, the Air Force reports its drop in mission-capable rates relative to the peaks achieved during and immediately after the Gulf War. Similarly, declines in the quality of recruits are often measured relative to the peaks achieved during the drawdown (when the services, having cut their demand for recruits more quickly than their resources for recruiting, substantially exceeded their quality goals). At what point do declines from peak levels threaten national security? How much readiness is enough?

In addition, some of the most widely publicized problems with readiness appear to stem—at least in part—from management problems rather than inadequate total budgets. For example, once the Navy recognized that the youth market had changed and that new approaches to recruiting were necessary, it was able to overcome many of the recruiting problems it experienced in 1998. Since then, the Army and Air Force also increased their focus on recruiting and, along with the Navy, met their recruiting goals for 2000.

An even more fundamental concern is that the traditional concept of readiness—which focuses on whether units have the resources and training they need to perform in major theater wars—may no longer adequately define readiness. Today, national security depends to a significant degree on the ability of units to undertake and accomplish new tasks quickly. For example, the commanders of two Army divisions with units engaged in the Balkans reported in 1999 that their divisions were not ready (they had a rating of C-4). That assessment was accurate in the sense that, given the absence of the deployed units, those divisions could not deploy quickly to a major theater war and perform their primary mission as they were designed to. Yet the fact that some units from those divisions went to the Balkans—where they received not merely training but actual experience in peacekeeping—could contribute to the divisions' ability to respond to future contingencies.

Various Approaches to Readiness Issues. Although evidence of readiness problems could be a sign that the military needs to spend more on such things as compensation and quality-of-life initiatives,

6. Rowan Scarborough, "Army Training Centers Get Failing Grade," *Washington Times*, August 29, 2000, p. 1.

7. Associated Press, "Navy Aviation Is in Bad Shape, Service's Inspector General Says," *New York Times*, September 9, 2000, p. A-11.

maintenance of real property and equipment, and inventories of spare parts, budget increases may not be the best solution for every readiness problem. In some cases, changes in Cold War programs or in management and budgeting practices—an approach proposed by the 1996 Defense Science Board study of DoD infrastructure—may be necessary if high levels of readiness are not to prove prohibitively expensive. In other cases, additional funding or management changes are already working their way through the system, or the readiness problem, although real, is a risk that DoD might choose to accept. Despite the department's stated commitment to readiness, many observers argue that it needs to strike a different balance between current readiness and the modernization and force-structure initiatives that are increasingly referred to as "future readiness."

The options below take varying approaches to improving readiness. Some would add resources without changing management practices. They would involve the fewest risks and offer the greatest prospect for immediate increases in readiness. Other options would change traditional management practices—for example, by moving away from a pay system that differentiates between personnel on the basis of marital status; reducing DoD's direct role in providing housing, health care, and retail services; or consolidating maintenance depots. Whether or not those changes were accompanied by additional funding, they could increase the risks to readiness in the short run. But in the long run, they might lower the cost of maintaining readiness and free up resources for modernization.

The Military Compensation Package

In response to concerns of the Joint Chiefs of Staff, the 106th Congress passed increases in all major aspects of the military compensation package—cash compensation (including basic pay, bonuses, and retirement pay), health care, and other noncash benefits (such as housing and child care). A military compensation package that can attract and retain high-quality, versatile personnel, who are able to learn new tasks and adapt to new practices quickly, might be especially important today—when the major threat to national security is diffuse and uncertain and when deployments can involve a wide range of tasks that are not the focus of standard training.

In addition to cash and noncash benefits, another tool that DoD might use to attract and retain personnel is working conditions. Those conditions include such diverse elements as the frequency of deployments, the condition of facilities and equipment, the quality of military leadership, and opportunities for meaningful, patriotic service. Although such conditions are often determined by operational needs and are not normally considered part of the overall compensation package, failure to provide satisfying working conditions can reduce retention rates. Many of the options at the end of this chapter that address the condition of facilities and equipment—as well as some previous options, such as the one that would increase staffing in military units—are aimed in part at changing the working conditions of service members.

Cash Compensation

Among its other military compensation initiatives, the 106th Congress raised retirement benefits for service members who entered the force after 1986, provided for consecutive annual across-the-board pay raises that are 0.5 percentage points above the growth rate of civilian wages, and restructured the military pay table using targeted pay raises to increase the importance of promotions rather than time in service.

Those actions are expected to boost retention in the military as a whole. But whether they will resolve the services' specific retention problems—which are focused on particular ranks and skills—is unclear. Moreover, the gains in overall retention will be expensive. One reason for the high cost of those changes—and their questionable impact on DoD's most serious personnel shortages—is that the pay raises are not targeted toward those shortages. Pay raises that exceed the growth in civilian wages are being given not only to people in occupations where DoD has shortages but also to people in occupations where DoD has excess personnel. Another reason is that the effect of higher retirement benefits may be limited by the fact that service members, like others in U.S. society, place a much higher value on current income than future income. Thus, past research indicates that increases in retirement pay are likely to be

a less cost-effective way to boost recruiting and retention than additional pay raises would be.

Frequent changes in any retirement system can disrupt expectations, so further modifications to the military retirement system may not be appropriate now. But increases in basic pay are typically determined by DoD and the Congress each year. The options below examine possible policies for setting future pay raises, the potential for using special pay targeted toward personnel whose skills are in short supply, and the role of the unemployment compensation program in rewarding separation from active duty. An additional option would eliminate the difference between pay for married and single personnel; it illustrates how some analysts believe the military compensation system might be fundamentally restructured to make it more cost-effective.

Option 050-34
Modify Planned Pay Raises for Military Personnel

	Costs or Savings (-) (Millions of dollars) Budget Authority	Outlays
	Larger Pay Raises	
2002	877	844
2003	2,149	2,101
2004	3,561	3,508
2005	5,124	5,065
2006	6,829	6,764
2002-2006	18,540	18,281
2002-2011	58,584	58,258
	Smaller Pay Raises	
2002	-231	-222
2003	-560	-548
2004	-918	-904
2005	-1,306	-1,291
2006	-1,721	-1,705
2002-2006	-4,735	-4,670
2002-2011	-14,800	-14,718

RELATED CBO PUBLICATION:

What Does the Military "Pay Gap" Mean? (Paper), June 1999.

In 1999, the Congress established temporary procedures designed to increase basic pay in the military at a greater rate than pay in the private sector. Those procedures set the annual military pay raise between 2001 and 2006 at 0.5 percentage points above the increase in the employment cost index (ECI) for wages and salaries of private-sector workers. According to widely published reports, a "pay gap" of more than 13 percent separates military personnel from workers in the civilian sector. In advocating the new pay procedures, the Senate Armed Services Committee cited the need to "close the gap between military pay and private sector wages." The House Armed Services Committee called for smaller raises (equal to the increase in the ECI), referring only to the services' recent negative trends in retaining personnel. The temporary procedures enacted in 1999, combined with the raises authorized for 2000 and 2001, will increase basic pay by about 3.3 percent (with compounding) above the change in the ECI from 1999 to 2006.

This option would change the procedures that the Congress established, providing for either larger annual increases or smaller ones. The alternative of larger raises would increase basic pay by 2.4 percentage points more than the change in the ECI each year from 2002 through 2006, thus eliminating the reported pay gap. That change would add $844 million to defense outlays in 2002 and a total of $58.3 billion through 2011. (Total federal costs for the option, however, would be $14.1 billion lower than that over 10 years because the Department of Defense's payments for military retirement and some other personnel programs are intragovernmental transfers and thus appear as receipts elsewhere in the budget.)

The second alternative would follow the example of the House Armed Services Committee, limiting raises to the annual increase in the ECI without an additional 0.5 percentage points and leaving pay about 2.5 percent lower in 2006 and beyond than un-

der the temporary procedures. That alternative would save $222 million in 2002 and $14.7 billion through 2011. (Total federal savings over 10 years would be $3.6 billion less.)

Various policymakers and analysts disagree about the need to increase military pay relative to pay in the civilian sector. That disagreement centers on two issues: the meaning of the reported pay gap and the severity of current problems in recruiting and retaining military personnel.

The common approach to comparing increases in military and civilian pay has several shortcomings, according to studies by RAND (a federally funded research center) and the Congressional Budget Office. A 1999 paper by CBO noted that the 13 percent gap reported in the press measures changes in relative pay between the two sectors rather than absolute levels of pay, takes no account of the age and education level of workers, and uses an essentially arbitrary starting point, 1982. CBO's analysis indicated that among all groups of military personnel, on average, pay increases since 1982 have roughly matched those among comparable workers in the civilian economy. Moreover, the level of pay for military personnel, whether officer or enlisted, falls at about the 75th percentile of pay rates for workers in the civilian sector of the same age and education.

Notwithstanding such analyses, some proponents of higher military pay continue to argue that military personnel are paid less than they could earn in civilian jobs. The Chairman of the Joint Chiefs of Staff stated in 1998 that "You can argue about how big the pay gap is . . . but nobody [in the Pentagon] denies there's a gap." Some Members of Congress reportedly favored a plan to "close the pay gap" over three years through raises several percentage points higher than the average increase in private-sector pay. Thus, regardless of what the true situation may be, belief in the existence of a large pay gap remains a powerful force in discussions about the best course for military pay policy.

Advocates of smaller pay raises would probably take strong issue with the assertion that a pay gap exists or even matters. First, they would point out, no one has demonstrated a gap as proponents of higher pay think of it—a difference between civilian and military pay scales. Second, they would say, the pay of military personnel overall has not fallen relative to the pay of civilian workers of the same age and education level. In addition, they could argue, the notion of a pay gap—a measured difference between levels of pay in the military and civilian sectors—is not relevant to decisions about military pay. Depending on how service members and potential recruits view the advantages and disadvantages of military service, the armed forces might have to pay considerably more than civilian employers, or conceivably less, to attract and retain enough qualified personnel.

A second issue of contention is the services' recent ability to meet their personnel needs. The Air Force reported unusually heavy losses of experienced personnel in recent years, perhaps because of the large number of smaller-scale deployments during the 1990s. Such deployments affect both the personnel sent overseas and those who stay behind (see option 050-10). In addition, reenlistment rates among Air Force personnel completing their first and second enlistment terms have fallen recently. Moreover, every service but the Marine Corps had trouble meeting its recruiting objective in 1999, although new enlistment programs and additional recruiting resources helped all of them meet their goals in 2000. Advocates of larger pay raises would argue that increased pay could mitigate retention and recruiting problems that might otherwise become more severe.

Proponents of smaller pay raises might argue that retention problems are not widespread and that if recruiting difficulties persist, they are better addressed through less expensive policies than an across-the-board pay raise. The Army has been as stressed by deployments as the Air Force, those proponents might argue, yet the Army was able to reduce its planned accessions of recruits in 1999 because it retained more enlisted personnel than it had expected. The Air Force's problems, they might say, should be solved by the greater predictability of deployments under the service's new Expeditionary Aerospace Force concept or dealt with by expanding reenlistment bonuses (see the next option). Finally, proponents of smaller raises could argue that increasing pay is an expensive way to solve recruiting problems; less expensive alternatives include increasing the number of recruiters, spending more on advertis-

ing, and offering more generous education benefits or enlistment bonuses.

Opponents of both alternatives in this option—people who would prefer the status quo of planned pay raises slightly exceeding average increases in private-sector pay—might offer two arguments for their position. Some would say that if the reported pay gap or retention problems warrant raising military pay, slow change is the best approach. Better to see the effects of the planned raises and improvement in retirement benefits, they would argue, than to commit immediately to a large pay increase. Others would contend that even if retention problems are not serious or the reported pay gap does not exist, the planned increases are necessary because service members believe the reports that they are underpaid and their perceptions will determine their actions. According to advocates of the status quo, when the service chiefs supported members' belief that they were underpaid and the Congress set out to increase military pay, a course was set that could not be reversed without serious consequences. □

Option 050-35
Increase Reliance on Selective Reenlistment Bonuses

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	60	57
2003	74	74
2004	88	88
2005	102	101
2006	109	108
2002-2006	433	428
2002-2011	1,013	1,007

Selective reenlistment bonuses (SRBs) are monetary incentives used to encourage the reenlistment of qualified service members in occupational specialties with high training costs or demonstrated shortfalls in retention. Eligible personnel generally receive half of their bonus when they reenlist and the remainder in annual anniversary payments over the course of their additional obligated service. Each service regularly adjusts its SRBs to address current retention problems, adding or dropping eligible specialties and raising or lowering bonus levels. Despite their use of reenlistment bonuses and other incentives, however, each of the services has at times had difficulty meeting its need for career personnel, particularly in some occupations.

This option would increase the services' spending on initial bonus payments to $400 million annually and remove current restrictions on the maximum bonus amount that an individual can receive. That additional spending would represent an increase of about one-quarter over funding for new bonuses in 2000 and 2001 and a nearly threefold increase compared with 1998. (The services began increasing their spending on bonuses in 1999, and the Congress added about $80 million to their requested amounts for each of the next two years amid concerns about poor retention.) Total spending on initial and anniversary SRB payments under this option would rise from roughly $340 million and $531 million in 1999 and 2001, respectively, to more than $770 million in 2007 and beyond. That increase reflects both the cost of this option—$57 million in outlays in 2002 and $1 billion over 10 years—and the long-run cost of the earlier growth in initial payments.

Although this option would have a substantial direct effect on defense costs, the actual increase in personnel costs could be much smaller, or even negative. Increased spending on reenlistment bonuses should improve retention, allowing policymakers to slow the growth of basic pay or other elements of military compensation (see the previous option). The estimated costs of this option do not reflect those offsetting savings, however, because the extent of the savings would depend on what actions, if any, policymakers took.

The four services use SRBs to differing extents. In late 1999, for example, almost half of the Navy personnel completing their initial enlistment term who were eligible for a bonus could receive one equal to a year's basic pay or more if they reenlisted

for four years. In the Army, by contrast, only about 15 percent of equivalent personnel could receive a bonus equal to more than four months of pay for a four-year reenlistment. Large bonuses were less prevalent in the Air Force and the Marine Corps than in the Navy, but far more common than in the Army.

Advocates of expanding the SRB program might argue that current bonus levels are too small to provide meaningful differences in pay among occupations. One year's basic pay for a four-year reenlistment—the largest bonus that the Army offers to any significant degree—actually amounts to only about a 13 percent addition to total pay over four years after accounting for the other elements of cash compensation and for pay raises over those four years (which do not affect the bonus). The largest bonuses add somewhat more than one-third to recipients' pay, but only the Navy offers bonuses at that level and only for a few occupations that involve operating and maintaining nuclear power plants on ships and submarines. In the civilian sector, by contrast, differences in average pay of one-third or more are common, even among blue-collar occupations.

Proponents of this option would argue that larger pay differences among occupations would be a cost-effective tool for improving military readiness. Compared with across-the-board increases in pay or benefits, bonuses are more efficient because they can reduce shortages of experienced personnel in those occupations most critical for readiness without contributing to surpluses in other occupations. Bonuses can also be focused on the years of service in which personnel make career decisions. (Pay raises can be focused on certain grades or years of service, but policymakers have rarely been willing to do so.) And compared with pay increases, bonuses avoid the heavy cost of "tag-alongs"—the elements of compensation, such as retirement benefits, that are tied to levels of basic pay.

Some critics of expanding reenlistment bonuses would argue that large pay differences among occupations violate a longstanding principle of military compensation: that personnel with similar levels of responsibility should receive similar pay. In their view, reenlistment bonuses should be limited to a few critical specialties with severe shortages. Other critics of bonuses and other special and incentive pays would turn the "tag-along" argument of proponents on its head. Increasing reenlistment bonuses, those critics would say, unfairly deprives service members of the retirement and other benefits that they would receive if that money were instead made part of basic pay throughout their career.

Other opponents of this option might agree that the military should offer large pay differences among occupations but criticize the origin or timing of the expansion in bonuses. They would argue that decisions about reenlistment bonuses should be left to the individual services, who are better able than outsiders to compare the cost of added bonuses with the cost of alternatives for addressing shortages of experienced personnel, such as recruiting and training new personnel. Those critics might also point out that the Congress has improved retirement benefits for many personnel and committed itself to increasing military pay at a rate greater than the increase in private-sector pay. Thus, they would argue, bonuses are not an alternative to across-the-board increases but an addition to them, and the results of those increases should be seen before the Congress considers expanding other incentives. □

Option 050-36
Eliminate Differences in Pay Between Single and Married Service Members

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	72	67
2003	534	502
2004	997	961
2005	1,409	1,374
2006	1,919	1,876
2002-2006	4,931	4,781
2002-2011	52,517	51,588

NOTE: These numbers do not include additional tax receipts.

The military generally pays married personnel more than single personnel performing the same job. The difference derives from the military's unique system of either providing food and housing to its members directly or paying them cash allowances to cover food and housing costs. Married personnel are generally thought to need more housing than single personnel, so both DoD-provided housing and housing allowances are larger for service members with dependents than for those without dependents. In addition, most single personnel in the junior enlisted pay grades (E-5 and below) are expected to eat in government dining facilities and live in DoD housing; they may provide their own meals and rent an apartment if they choose, but without specific authorization they cannot receive cash allowances to help cover the cost.

This option would eliminate the pay differences between married and single personnel by dropping the separate allowances for food and housing—in other words, moving to a salary system. Over a five-year transition period beginning in 2002, housing allowances for single personnel would gradually rise to the married level. In 2007, the food allowance and all but the locality-specific component of the housing allowance would be rolled into basic pay. (The locality-specific component would be combined with an existing allowance that accounts for differences in nonhousing costs.) An additional amount would be added to basic pay to compensate members for the increased liabilities they would incur for Social Security and federal income taxes when the nontaxable allowances were converted to taxable pay. Also in 2007, computation procedures for retirement pay and other elements of compensation that are linked to basic pay would be revised to prevent any increase in their costs.

Making those changes would add $67 million to defense outlays in 2002 and a total of $51.6 billion through 2011—or about 9 percent to military personnel costs once the transition was completed in 2007. (Total federal costs, however, would be $8.9 billion lower than that over 10 years because DoD's payments for military retirement and some other personnel programs are intragovernmental transfers and thus appear as receipts elsewhere in the budget.) Increased tax receipts would offset about $20.9 billion of the costs in the 2007-2011 period.

Since long before the modern volunteer military began in 1973, outside studies and government-sponsored commissions have recommended adopting a salary system for the military. A common argument is that paying two people with the same rank and job at different rates simply because one is married and the other unmarried is inequitable. The pay difference also creates an incentive for service members to marry, which raises the military's costs for dependents' health care and other benefits. In addition, proponents note that eliminating the separate food and housing allowances would make total military compensation more visible and thus more effective. It would also increase the visibility of another portion of defense costs: the tax revenues that are forgone because the current allowances are tax-free. Another advantage of this option is that most of the cost reflects a pay increase for single personnel, which could improve their retention.

Some critics might argue that this option would represent an ill-advised meddling with a pay system that has served the military well for over 50 years. But the most recent DoD study of moving to a salary system focused instead on the practical difficulties of making the transition. For example, devising payment schemes for the elements of compensation now tied to basic pay could prove difficult, in part because converting the allowances into basic pay would raise the basic pay of some groups of personnel more than that of others. Most of the difficulties, however, would derive from the current tax-free nature of the allowances. Calculating the increase in federal tax liabilities for a typical service member in each pay grade would be straightforward, but some personnel would wind up better off than before the transition and others worse off. In addition, Congressional budget rules could make it difficult to recognize the increase in tax receipts that would occur when the allowances were converted into taxable pay as an offset to the costs of this option. Finally, the cost estimate for this option assumes that service members would not be compensated for their additional liabilities for state and local taxes because those would depend on where members chose to establish residency; critics could point out that ignoring state and local taxes would effectively cut the pay of military personnel.

Another question that would arise in the transition to a salary system would be how to set rents for government housing for both single and married personnel once the current practice of charging an implicit rent equal to the service member's housing allowance was no longer practical. The cost estimate for this option assumes that rents would be based on the housing allowances at the end of the transition period, adjusted annually for changes in local housing costs. Rents for family housing would be equal to the full allowance. For bachelor housing, a "dorm fee" would gradually decline from the full allowance at the beginning of the transition period to half the allowance at the end. The estimate assumes that the services would continue their current policy of expecting most single personnel in grade E-5 or below to live in barracks or aboard ship; for such personnel, the dorm fee would be mandatory.

An alternative plan for family housing that might be appropriate after the transition would be to raise rents to levels sufficient to eliminate waiting lists for the available government housing. That alternative is examined in option 050-44. □

Option 050-37
Deny Unemployment Compensation to Service Members Who Leave Voluntarily

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-126	-126
2003	-135	-135
2004	-145	-145
2005	-155	-155
2006	-166	-166
2002-2006	-728	-728
2002-2011	-1,702	-1,702

Many military personnel who voluntarily leave active-duty service are eligible for unemployment benefits. That situation contrasts with the situation of civilians in the public and private sectors, who must lose their job to qualify for unemployment compensation.

This option would subject former military personnel to the same rules as members of the civilian labor force; in other words, only personnel who were terminated from military service involuntarily would be eligible to receive unemployment benefits. That change would reduce the number of departing personnel eligible for benefits by at least two-thirds and save $126 million in 2002 and $1.7 billion through 2011. (Because the Department of Defense ultimately reimburses the Department of Labor for the cost of unemployment payments to former service members, most of those savings would come out of DoD's budget. A small portion of the savings, $52 million through 2011, would come out of the Department of Labor's budget. Those latter savings would represent savings in mandatory spending.)

Most personnel who leave military service do so voluntarily. Many choose not to reenlist after completing a term of service; others, who have served for a minimum of 20 years, opt for voluntary retirement. A much smaller group is separated involuntarily for reasons related to job performance or failure to achieve a promotion.

Proponents of this option would argue that subjecting military personnel to the same rules as the rest of the workforce would make more equitable use of an entitlement program that was intended to aid people who lose their job involuntarily.

Critics, by contrast, might argue that the frequent moves associated with military service mean that members who separate voluntarily are unlikely to take up residence in the area of their final posting, making it difficult for them to find a new job before they leave the service. In those critics' view, voluntary separation from military service is not comparable with voluntary termination of civilian employment and therefore should not be subject to the same restrictions on eligibility for unemployment compensation.

Moreover, the current treatment of military personnel in the unemployment compensation program is well established. Although in 1981 the Congress briefly eliminated eligibility for service members who leave voluntarily, it restored that eligibility the following year. □

Health Care Benefits

Health care, which will cost DoD about $17 billion in 2001, is arguably the most important noncash element in the military's overall compensation package. A service member's degree of satisfaction with the military health care system can play an important role in his or her decision to remain in the service. That system was the focus of much Congressional attention during 2000. The resulting legislation made significant changes: eliminating all cost sharing for health services provided to the families of active-duty service members who are enrolled in the military health plan known as Tricare Prime; setting standards that are intended to give active-duty families who live in remote areas the same access to care as those who live near larger bases; and, beginning in April 2001, greatly expanding health benefits for military retirees and their dependents who are 65 or older. Although those changes address some longstanding concerns about the military health care system, important problems remain. This section examines other possible changes.

The Structure of the Military Health Care System. The fundamental reason for the military to have its own health care system is to keep service members ready for duty and provide them with care during military operations. During the Cold War, the military medical system was structured to fit scenarios involving mass casualties in a major European war. In peacetime, that structure would be available to provide large amounts of care to beneficiaries not on active duty, including the families of active-duty personnel, retirees, surviving military spouses, and their dependents. More recent planning scenarios require less medical capacity; as a result, DoD has substantially reduced its system of military treatment facilities. Yet even with those reductions, the system is much larger than required for current wartime scenarios. Most of DoD's health care budget is devoted to caring for non-active-duty beneficiaries. Of the 8.2 million people eligible to use the system, only about one in five is a service member on active duty.

Active-duty personnel receive free health care through DoD's hospitals and clinics (called the direct care system) and a closely affiliated network of civilian providers. Family members and other beneficiaries who are not on active duty (and are not yet eligible for Medicare) have two health care options. One is to enroll in Tricare Prime and agree to seek treatment through the same direct care system and network of civilian providers that serve active-duty personnel. Patients who use Tricare Prime face low (usually no) fees and copayments for comprehensive care in exchange for the limited flexibility of a managed care approach. The second option is to use Tricare Standard or Extra—insurance plans that allow military beneficiaries to seek care from a larger number of civilian providers. Those plans feature benefits, copayments, and deductibles similar to the ones in private-sector fee-for-service plans and preferred provider plans, respectively. Beneficiaries who choose Tricare Standard or Extra can also receive care at very little cost from DoD's direct care system. But unlike people enrolled in Tricare Prime, they can do so only when space is available.

Under previous law, military retirees and dependents lost their eligibility to use DoD's health insurance plans when they turned 65 and became eligible for Medicare. However, they could still receive free care at military hospitals and clinics when space was available, and they could fill prescriptions and get laboratory services at those facilities free of charge. In recent years, however, base closures limited DoD's ability to provide elderly beneficiaries with space-available care in certain areas, and some retirees claimed that DoD had reneged on a promise to provide them with free lifetime medical care.

Legislative changes enacted last year directly responded to that criticism. The Floyd D. Spence National Defense Authorization Act for 2001 greatly expanded health benefits for older military retirees and their families. Beginning this April, all military beneficiaries age 65 or older will be eligible to use DoD's mail-order pharmacy program and network of retail pharmacies. Starting in 2002, military beneficiaries enrolled in Part B of Medicare may begin to use Tricare Standard or Extra as "wraparound" cover-

age to supplement Medicare (those plans offer certain benefits that Medicare does not). The Congress directed DoD to refrain from charging elderly beneficiaries coinsurance or deductibles for their use of services under those new benefits. Beginning in 2003, responsibility for paying the health expenses of those military beneficiaries will shift from DoD's appropriation to a trust fund. Although DoD will begin making accrual payments into that fund for the future health costs of active-duty service members and their dependents, obligations for the health expenses of elderly beneficiaries who are already retired will largely be paid for by the general fund of the U.S. Treasury.

Criticisms of Military Health Care. Two interrelated criticisms are often directed at DoD's health care system. First, some Tricare users complain of long waits for appointments at military hospitals and clinics or difficulty getting access to the limited number of specialists available through Tricare's networks of preferred providers. Some Tricare beneficiaries have also found it hard to get care when they are away from home.

To some extent, those concerns about access may reflect growing pains in the Tricare system, which DoD started in 1995 but only gradually expanded nationwide. Under Tricare, DoD relies on private contractors in different regions of the country to provide advice lines staffed by nurses, schedule appointments with military and civilian providers, set up networks of providers, negotiate payment rates, and process claims for reimbursement. Many of the complaints about Tricare focus on the service that those contractors provide. However, enrollees' satisfaction with Tricare has generally improved as the contractors and DoD have gained experience with the system and with coordinating benefits in different parts of the country.

Nevertheless, some of the reported problems with access to care under Tricare may reflect more fundamental problems. Long delays for patients seeking treatment in military facilities may indicate a lack of focus on customers' needs, inefficiency in the use of doctors' time, or the crowding out of Tricare Prime enrollees by beneficiaries who are technically eligible to receive care only when space is available. Moreover, the behavior of patients is such that a medical system that does not use copayments to control usage may have to rely instead on implicit costs in the form of waiting time. In the absence of copayments, increasing the capacity of the system could lead to an increase in the number of patients, with no significant change in the average waiting time for a visit.

A second criticism is that DoD's medical system has trouble planning for and controlling health care costs. Civilian health care plans must also plan for and control costs, but the structure of military health care benefits makes those tasks particularly difficult for DoD. Planning is complicated by the fact that beneficiaries who choose not to enroll in Tricare Prime can still turn to space-available care at military facilities or to Tricare Standard or Extra at any time that coverage is convenient for them. As a result, the amount of medical care they will seek from DoD in any given year is uncertain.

Cost control is further complicated by the fact that care at military hospitals and clinics is free (or nearly free) to its recipients. The system's incentive structure causes beneficiaries to use substantially more care than other U.S. residents—even though more care does not necessarily lead to better health. In addition, as private-sector employers and insurers have required beneficiaries to pay more of the cost of their care, people who are also eligible for DoD's system have increased their reliance on military facilities for services (such as pharmacy services) that would otherwise entail out-of-pocket costs.

The experience of private-sector health plans suggests that charging a nominal copayment for routine outpatient visits and pharmacy services gives consumers an incentive to use care more prudently without significantly affecting their health. DoD, however, has characterized copayments for treatment in military facilities as cost-cutting measures that would harm the quality of life of service members. Recent legislation eliminated copayments for active-duty family members enrolled in Tricare Prime who are treated by civilian providers. Nevertheless, beginning to charge copayments at both military and civilian facilities could be seen as a way of making DoD's efforts to improve access to health care more cost-effective.

In the future, DoD may have trouble restraining the growth of costs for its new benefits for older military retirees and their dependents. After 2003, those costs will be paid with mandatory spending rather than a fixed level of funding allocated each year through Congressional appropriations. (As a result, mandatory spending will rise by a total of nearly $60 billion through 2010, CBO estimates.) Moreover, DoD plans to administer the new Tricare Standard or Extra wraparound coverage without charging elderly beneficiaries any enrollment fees, deductibles, or coinsurance for their use of services.

The options presented below represent a mix of approaches to the challenges faced by the military health care system. Some of the options would try to provide better benefits by adding resources to the system; others would institute copayments to make the system more efficient; and others would fundamentally restructure DoD's role in providing health care in the post-Cold War era.

Option 050-38
Increase the Capacity to Serve Active-Duty Families at Military Treatment Facilities

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	150	108
2003	365	223
2004	384	308
2005	392	355
2006	401	380
2002-2006	1,692	1,374
2002-2011	3,835	3,411

Most families of active-duty personnel enroll in Tricare Prime, a health plan that promises comprehensive care at minimal cost. But many of those families complain that obtaining appointments to receive care at military hospitals and clinics—where Tricare Prime is centered—is difficult.

This option would try to improve access for active-duty personnel and their families at military treatment facilities through three approaches. It would expand the Department of Defense's capacity to offer outpatient services at those facilities by hiring more civilian staff to support military health care providers. It would also increase the number of exam rooms available for outpatient visits at those facilities. And it would change the incentives of physicians who supply care at military hospitals and clinics. Together, those measures would cost $1.4 billion in outlays through 2006, or a total of more than $3.4 billion over 10 years.

Some DoD planners say the military health care system is greatly in need of support staff, such as registered nurses and other skilled personnel who provide technical assistance and follow-up care. Since 1990, DoD has cut the number of civilian workers in its system by 22 percent, while the number of military medical personnel has fallen by 13 percent. According to DoD analyses, military outpatient clinics have a lower ratio of support staff to health care providers (including physicians, physical therapists, and psychologists) than many health maintenance organizations (HMOs) in the private sector.

In a 1998 hearing before the House National Security Committee, the Surgeons General of the Army and Navy both identified support staff as a high-priority need within the military health system, since those personnel can free up physicians' time to see more patients. For its part, the Office of the Secretary of Defense has set a goal of having 3.5 support personnel per provider throughout its clinics, based on what it believes are norms among HMOs. This option would give DoD new funding to achieve that ratio of support staff to providers of outpatient care.

Besides staffing, military facilities also differ from the private sector in their physical capacity for outpatient care. Most DoD hospitals were built decades ago and were designed to focus on inpatient care rather than outpatient visits. Many civilian HMOs, by contrast, do not operate their own inpatient facilities at all. This option would provide new funding to build more rooms for outpatient exams at military facilities.

Although those measures would expand DoD's capacity for outpatient visits at on-base facilities, they might not be sufficient to improve active-duty families' access to care. For example, physicians could resist moves to add to their current workload of patients. This option would try to counter that possibility through monetary incentives for military physicians. Specifically, providers who serve as primary care managers would be eligible to receive up to $22,000 per year in bonus compensation that would be tied to the productivity of a group of military physicians, as measured by quality of care and patients' satisfaction and access. Bonuses would be divided among groups of physicians rather than awarded to individuals for two reasons: to use peer pressure to ensure that providers offered high-quality care, and to avoid the need to adjust measures of an individual physician's productivity for the relative complexity of his or her cases.

Supporters of this option would argue that expanding outpatient capacity and changing the incentives of providers could make the military health care system more accessible. Those changes could reduce waiting times and make it easier to schedule appointments at military hospitals and clinics. In addition, if health care is a key consideration in service members' decisions about whether to leave or stay in the military, such measures might help increase retention.

Opponents of expanding the number of support staff at military clinics might argue that DoD should have a lower ratio than is common in the private sector. DoD's health care providers must furnish more on-the-job training than civilian providers do, since active-duty support personnel often have not had much instruction in health care before entering military service. Moreover, critics of this option would contend that before DoD devotes more funds to hiring support staff or building exam rooms, it should first look at how it can better manage its current resources. Some might argue that DoD has too many physicians on active duty.

Other critics of this option contend that increasing the capacity of the system could do little to reduce delays in appointments because, in the absence of copayments, the additional capacity might simply induce beneficiaries to seek more care. (Such delays might be reduced, however, if DoD also began charging nominal copayments for outpatient visits; see option 050-40.) Moreover, if tied solely to volume of patients, the performance bonuses for physicians could create an incentive for them to provide unnecessary or poorer-quality care. □

Option 050-39
Downsize the Military Medical System

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	1,429	1,567
2003	361	629
2004	1,179	1,683
2005	689	1,315
2006	-1,408	-863
2002-2006	2,250	4,331
2002-2011	-16,031	-12,376

RELATED CBO PUBLICATION:

Restructuring Military Medical Care (Paper), July 1995.

This option would substantially reduce the size of the Department of Defense's direct care system, cutting the number of beds in military facilities to the amount that DoD would need to care for two-thirds of the casualties it anticipates from two nearly simultaneous major wars. As part of that downsizing, DoD would convert many military hospitals into outpatient clinics, close other facilities, and reduce the number of active-duty physicians. This option would also discontinue the Tricare program for retirees and all types of dependents, requiring them to seek care in the civilian sector. Instead, they would be offered coverage through the Federal Employees Health Benefits (FEHB) program.

Such restructuring of the military medical system would require additional spending in the near term but would offer substantial savings later on. Net

savings in outlays would total more than $12 billion through 2011. That estimate reflects savings from operating a smaller military system (assuming that DoD faces the same upward pressures on the cost of care that private-sector providers and insurers do). It also takes into account the costs of closing facilities and of providing FEHB coverage to non-active-duty beneficiaries. Under this option, DoD would pay the same share of the premiums for FEHB health plans that other federal agencies do for their civilian employees. In addition, families of active-duty service members who enrolled in FEHB would receive a voucher that covered much or all of the remaining share of their premium.

Supporters of downsizing note that although DoD's wartime medical requirements during the Cold War were based on the scenario of a large conventional conflict in Europe, more recent planning scenarios have led to sizable cuts in those requirements. Today, between military medical facilities, hospitals run by the Department of Veterans Affairs, and civilian facilities that have agreed to provide beds during a national emergency, the military has access to more than twice the hospital capacity needed to meet the current wartime demand for 13,400 beds. Moreover, even after making the reductions in this option, DoD would still have about 9,000 beds in its expanded system—a much higher percentage of its wartime requirement than it met during the Cold War.

DoD would probably see several disadvantages, however, to making such deep cuts to its health care system. Military medical officials argue that DoD facilities and the care they provide in peacetime are essential for recruiting and training physicians and ensuring medical readiness. Downsizing that system to such an extent would require DoD to modify the way it trains and prepares for wartime. For example, it would need to strengthen ties with the civilian sector to provide casualty training for military medical personnel and to continue ensuring an adequate supply of beds for wartime.

Another potential drawback of this option is that some beneficiaries who enrolled in FEHB plans would pay substantially more out of pocket than they do for care in the military system. Military retirees and their dependents would pay about 30 percent of their FEHB premium. (Dependents of active-duty members would pay little or no premium after receiving their voucher.) And enrollees in most FEHB plans would face copayments or deductibles for outpatient visits, prescription drugs, and other medical services.

Proponents of this option would counter that higher out-of-pocket costs could prompt more prudent use of medical care than in DoD's direct care system, where many services are provided at no or low cost. In addition, they might say, many FEHB plans would offer improved coverage and so might be worth the greater out-of-pocket expense. Moreover, the value of DoD's health benefits has grown dramatically with advances in technology and medical practices. Thus, proponents would argue, it is reasonable for military beneficiaries to share more of the costs associated with those advances—as many people covered by employer-sponsored plans in the private sector already do. □

Option 050-40
Revise Cost Sharing for Military Health Benefits

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-475	-401
2003	-592	-560
2004	-615	-602
2005	-638	-631
2006	-661	-655
2002-2006	-2,981	-2,848
2002-2011	-6,674	-6,505

RELATED CBO PUBLICATION:

Restructuring Military Medical Care (Paper), July 1995.

This option would make three changes to the military health care system. First, all beneficiaries would be

required to enroll in a Tricare plan before using the system. The annual enrollment fee for Tricare Prime would remain the same (no charge for active-duty personnel and their families; $230 for single coverage or $460 for family coverage for retirees). Under Tricare Extra or Standard, active-duty families would still pay no fee, but retirees (whether younger or older than 65) would pay $115 a year for single or $230 for family coverage. Second, the Department of Defense would adjust enrollment fees for inflation by the annual change in the consumer price index for medical expenses. Third, users of Tricare Prime would pay the same copayments for outpatient care at military facilities (where they now pay nothing) as they had been paying at civilian providers. In addition, all retirees would begin to pay small copayments if they chose to receive care at military facilities.

Together, those three changes would save DoD about $400 million in outlays in 2002 and $6.5 billion through 2011. The savings would stem from enrollment fees, increased copayment charges, and more prudent use of care by beneficiaries. Under current law, DoD is allowed to spend some of the revenues it collects through copayments. This estimate assumes that the Congress would reduce DoD's appropriations by the amount of revenue collected under the option. However, if the Congress revoked DoD's automatic reimbursement authority, some of the savings would take the form of an offset to mandatory spending.

By requiring beneficiaries to enroll in a Tricare plan, DoD could identify who uses its medical system. Military providers need to plan for the health care needs of a defined population to develop per capita budgets and build cost-effective delivery networks.

Proponents of this option could argue that the value of DoD's health benefits has risen with advances in medical technology, so users should expect to bear some of the associated cost, just as employees of private firms do. In addition, charging copayments would help curb excessive use of services.

On the negative side, many military families and retirees would view even modest copayments at military facilities as an erosion of their benefits. Retention and morale might suffer, even though this option would still offer service members and their families more generous health benefits than most government or private-sector employers do. □

Option 050-41
Have DoD and VA Purchase Drugs Jointly

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-33	-26
2003	-86	-74
2004	-111	-102
2005	-123	-118
2006	-138	-133
2002-2006	-491	-454
2002-2011	-1,431	-1,366

In 1999, the Departments of Defense and Veterans Affairs (VA) together spent about $2.4 billion on prescription drugs for patients in their health care systems. Nationwide, spending on prescription drugs has grown roughly twice as fast in recent years as total national health spending. Constraining such cost growth is an important goal for DoD and VA: each operates its large health care system on a fixed annual appropriation, so spending more on prescription drugs means it has fewer resources to devote to other types of care for its beneficiaries.

This option would consolidate DoD's and VA's purchases of pharmaceutical products, as the Congressional Commission on Servicemembers and Veterans Transition Assistance recommended in 1999. Specifically, it would require the two agencies to organize a joint procurement office and develop a common clinically based formulary (a list of prescription drugs that both agencies' health plans would agree to provide). Formularies can save money by encouraging providers to substitute generic versions for brand-

name drugs or by selecting one or more preferred brand-name drugs within a therapeutic class. The joint formulary would apply throughout the VA health system, to mail-order pharmacy services, and at military hospitals and clinics. Once in place, it would allow the agencies to enter into more "committed volume" contracts with pharmaceutical manufacturers, which generally lead to lower drug prices. In addition, this option would merge the two agencies' mail-order pharmacy services. Those changes would save DoD and VA a total of $26 million in outlays in 2002 and nearly $1.4 billion through 2011.

In recent years, DoD and VA have made efforts to combine some purchases, but that collaboration is limited, and they continue to maintain separate formularies and procurement offices. The VA's National Acquisition Center is responsible for purchasing prescription drugs for most federal agencies except DoD, and it negotiates and maintains the federal supply schedules of prices for those items. The Defense Supply Center Philadelphia (DSCP), an office of the Defense Logistics Agency, negotiates prices for pharmaceutical products and draws up contracts with vendors to buy and deliver those products to military treatment facilities. DSCP also makes plans to deliver those items overseas quickly in the event of a conflict.

Proponents of joint purchasing would argue that DoD and VA need to rein in the rapid growth of prescription drug costs. Without such measures, both agencies may be forced to ration more tightly the care they provide. In addition, those proponents would say, the need for separate procurement offices is not apparent. According to a 1998 report by DoD's Inspector General, only 0.05 percent of the items that the DSCP procures on behalf of military facilities are "militarily unique"; most are common items. VA officials maintain that the National Acquisition Center has already achieved significant savings on many of its pharmaceutical purchases through committed-volume contracts. A recent study by the Institute of Medicine seems to confirm that point: it estimated that the VA saved about 15 percent on drug purchases in six therapeutic classes by selecting a preferred drug in each class.

In developing a common formulary, the two agencies would need to adopt procedures by which physicians could prescribe nonformulary drugs to patients who needed them. (For example, a patient would require an alternative drug if he or she was allergic to the formulary drug in a therapeutic class.) The design and execution of such an exception process would affect the savings from this option. The stricter the process, the higher would be the cost of documenting and judging the patient's need for a nonformulary drug. A less restrictive process, however, would reduce the government's bargaining power and could reduce the savings from this option.

Critics of consolidation argue that such savings are unachievable anyway. The veterans who obtain health care from the VA make up a very different mix of medical cases than military beneficiaries do—for example, more of them suffer from mental illness, substance abuse, or severe disabilities (such as spinal cord injuries). Thus, the degree of overlap in prescription drugs dispensed by the two agencies may be limited.

Opponents of this option also argue that DoD and VA have already taken important steps to expand their joint procurement. They have entered into 29 joint national contracts to buy pharmaceutical products. Some officials believe that the agencies will achieve the bulk of any possible savings simply by sharing price data with one another so they can negotiate the lowest prices with pharmaceutical manufacturers and suppliers. Moreover, DoD officials contend that they must maintain their own procurement office to ensure that drug supplies will be available quickly in the event of war.

Other critics, however, might argue that this option would not go far enough. Savings could be even larger if DoD implemented a uniform formulary for all three types of pharmacies that its beneficiaries use: pharmacies at military hospitals and clinics, the mail-order service, and retail pharmacies (where beneficiaries receive partial reimbursement through insurance). DoD officials say that as they have tightened the formularies of drugs available at military facilities, beneficiaries have increasingly turned to retail outlets—which often costs DoD more than if the department had purchased the drugs at federal prices and dispensed them itself. (Consequently, the estimate for this option assumes that DoD's insurance claims for pharmacy services would increase.)

If DoD could enforce a single formulary at all pharmacy outlets, it would enjoy greater savings. ☐

Other Noncash Benefits

The military has traditionally provided a much broader array of noncash benefits than most civilian employers. Besides health care, the list includes subsidized on-base housing; commissaries (on-base grocery stores); exchanges (general retail stores); child care; and morale, welfare, and recreation programs (golf courses, fitness centers, social clubs, and the like). For the most part, DoD relies on in-house organizations rather than private contractors to provide those subsidized goods and services.

In general, both economic theory and the commonsense notion that people are the best judge of where they would like to spend their money suggest that cash payments—rather than in-kind or noncash benefits—should play a dominant role in compensation. When private employers provide health care and other noncash benefits, it is often because that approach allows them to offer tax-free compensation or to take advantage of their ability to purchase goods and services at a lower price than employees could on their own.

Military leaders often point out that noncash benefits are likely to offer some special advantages to both individual service members and DoD. Those benefits mean that military personnel have familiar services readily available as they and their families move from one unfamiliar base to another. Noncash benefits, and the associated on-base lifestyle, can also provide a sense of belonging to an organization that cares for its members and their families. Likewise, such benefits can send the message that DoD is not just another employer and military service is not just a job. Among officers in critical specialties, military values and lifestyle and a sense of esprit de corps are the most frequently cited reasons to stay in the service.[8]

Nonetheless, DoD's noncash benefit programs entail significant costs. Moreover, changes in the civilian economy (such as the growth of discount retailers that compete with on-base stores) and the aging of DoD's infrastructure of housing and other facilities have made it more difficult for DoD to offer high-quality goods and services at below-market prices. A 1997 report by the Congressionally mandated National Defense Panel—a group that included four retired general officers—suggested that it might be time for DoD to reassess the role of military communities and noncash benefits.[9] Panel members said that military personnel might be better off if some of the resources devoted to providing benefits such as housing, schools, medical care, and retail stores were instead devoted to raising cash compensation.

This section provides an array of options dealing with noncash benefits. Some would increase funding for those benefits. Others would reduce the cost of providing noncash benefits or replace them with cash payments. Still others would make the costs of noncash compensation more visible to encourage DoD and service members to make choices between cash and noncash benefits.

Option 050-42
Consolidate Military Personnel Costs in a Single Appropriation

More than 20 percent of the federal government's costs to recruit and retain military personnel fall outside the military personnel appropriation of the Department of Defense. The costs for many personnel benefits—commissaries, medical care, DoD schools, and on-base family housing—are paid by DoD out of other appropriations. Some additional benefits, such as the Montgomery GI Bill and veterans' disability payments, are paid by the Department of Veterans Affairs (VA). This option would realign appropriations so the full cost of attracting and retaining military personnel appeared in DoD's military personnel account.

Under this option, each of the DoD-funded personnel-support costs mentioned above would become a budget activity or subactivity within the mili-

8. General Accounting Office, *Perspectives of Surveyed Service Members in Retention Critical Specialties*, GAO/NSIAD-99-197BR (August 1999), p. 30.

9. National Defense Panel, *Transforming Defense: National Security in the 21st Century* (December 1997), p. 83.

tary personnel appropriation. Some VA programs might also be funded in the defense budget. The realignment of appropriations would have two related goals: to provide more accurate information about how much money is being allocated to support military personnel, and to give DoD managers more incentive to use resources wisely.

The current distribution of personnel costs among different appropriations makes it difficult for DoD, the Congress, or taxpayers to track the total level of resources devoted to supporting military personnel. Changes in the appropriation level for military personnel can be either offset or enhanced by changes in the resources devoted to health care, housing, or education benefits. The total picture is rarely, if ever, seen—making it hard to analyze total compensation or make comparisons with civilian compensation.

In addition, because personnel-support costs and military training and operating costs are mixed within the operation and maintenance (O&M) appropriation, interpreting trends in that important appropriation can be difficult. How much of the past growth in O&M spending per active-duty member resulted from growth in personnel costs, such as medical benefits, and how much resulted from changes in the cost of operating military units and installations?

The current distribution of personnel costs among appropriations and agencies can also distort the incentives that managers face. For example, because the costs of enhanced benefits under the Montgomery GI Bill would be paid by the VA, managers at DoD have little reason to ask whether other recruiting incentives might be more cost-effective. Similarly, compensation managers have little incentive to seek the most cost-effective mix of cash and in-kind benefits as long as DoD pays for in-kind benefits such as commissaries and housing out of different appropriations than cash benefits. With separate appropriations, no reliable mechanism exists to ensure that funds taken from in-kind benefits will be returned to service members in the form of pay raises. If both cash and in-kind benefits were paid from a single appropriation, the demand for greater in-kind benefits might be muted, and it might be easier for both the Congress and DoD managers to show service members that changes in benefits were not an erosion in the total compensation package. A consolidated budget for personnel support could even lead to growth of in-kind compensation when that was, in fact, the most cost-effective approach.

How much this option might save is unknown (thus, no savings table is shown). But with the total cost of supporting military personnel at about $95 billion a year, the potential savings from better management of those costs are substantial. (Savings of just 1 percent, for example, would equal almost $1 billion annually.)

In addition to providing savings, this option could lead to a realignment of responsibilities within the military services. Although no change would be required, the new approach to appropriations might eventually result in the consolidation of personnel-support functions under a single Assistant Secretary in each service and the Office of the Secretary of Defense. That realignment might in turn contribute to better coordination among the different personnel-support functions.

One potential disadvantage of this option is that it would require DoD to revise both the financial management systems used to track budget authority and outlays and the budget exhibits it prepares for the Congress. But because DoD already tracks the costs of its various personnel-support programs separately, moving those programs to a different appropriation would involve reorganizing current data rather than collecting new data.

A much more serious drawback of this option is that the new structure for appropriations could require changing the responsibilities and possibly the structure of the various Congressional subcommittees that authorize and appropriate funds for defense. That could prove difficult and controversial. □

Option 050-43
Increase Housing Allowances to the Full Cost of Adequate Housing

About one-third of military families live in housing units provided without charge by the Department of Defense. The other two-thirds rent or own housing in off-base communities and receive a cash allowance

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	348	322
2003	633	604
2004	326	339
2005	0	26
2006	0	6
2002-2006	1,306	1,297
2002-2011	1,306	1,300

RELATED CBO PUBLICATION:

Housing Prices, Housing Choices, and Military Housing Allowances (Paper), October 1998.

that typically covers only a portion of their housing costs; they must pay the remainder out of their own pocket (that is, from sources other than their housing allowance). During most of the 1980s and 1990s, military families living off-base typically paid about 20 percent of their housing costs out of pocket. The inequity of that arrangement has long been recognized, and the out-of-pocket costs contribute to a high demand for on-base family housing even though many on-base units are aging and in poor repair.

In 2000, DoD asked the Congress for authority—which was granted—to raise housing allowances. The department planned to increase allowances gradually until, by 2005, a military family (or single service member) living in off-base housing of standard quality would have no out-of-pocket costs. In the first step of that plan, out-of-pocket costs would drop to about 15 percent in 2001.

This option would accelerate DoD's planned transition by two years, cutting out-of-pocket costs to just over 7 percent in 2002 and eliminating them in 2003. (Under DoD's plan, families would still be paying more than 7 percent of their housing costs out of pocket in 2003.) The faster schedule would cost about $1.3 billion more from 2002 through 2005 than DoD's current plan. In 2006 and beyond, both plans would cost roughly $1.9 billion a year.

Raising housing allowances would directly benefit the roughly 750,000 active-duty personnel (both single and married) who live in private housing. In addition, it would contribute indirectly to improving the quality of DoD's on-base housing units. Recently, DoD has been experimenting with public/private partnerships designed to provide private capital for replacing and revitalizing on-base housing. Higher allowances would make the partnerships—whose return on investment typically depends on the size of those allowances—more appealing to private firms. Moreover, because service members would no longer have a financial reason to accept poor-quality on-base units, queues for on-base housing would decline, and base commanders would have a strong incentive either to improve or to demolish substandard units. That situation could help resolve DoD's housing problems and allow the department to reduce its role as a direct provider of housing. (For another way to reduce demand for on-base housing, see the next option.)

Proponents of this option could argue that accelerating the current plan would signal the seriousness of DoD's and the Congress's commitment to raising housing allowances and help ensure that the current momentum was not lost before the goal of eliminating out-of-pocket costs was met. To potential private partners, the strong signal would reduce uncertainty about their future returns. To service members struggling to cover their housing costs, it could serve as dramatic, visible evidence of DoD's desire to improve their welfare. Thus, a more rapid increase in housing allowances could have an immediate impact on morale and retention—two areas of particular concern to policymakers.

People who favor DoD's plan for a slower transition might argue that local commanders will need time to adjust to the reduced demand for on-base housing. At some installations, for example, DoD holds long-term leases on privately owned housing that it provides to military families. If service members suddenly decided to rent private units on their own, DoD might have to absorb the costs of leases on vacant housing, offer that housing to personnel in lower pay grades than those for whom it was intended, or revert to its largely forgotten policy of requiring members to accept government housing (if that housing meets minimum standards).

Other observers might object to both this option and DoD's plan to eliminate out-of-pocket housing costs by 2005. Either plan would carry a high price tag and could be seen as reinforcing DoD's commitment to a system of pay and allowances that many people outside the military consider unduly complicated and inefficient. Opponents could argue that those plans should include the elimination of inequitable pay differences between married and single personnel and the eventual adoption of a simple salary system for the military (see option 050-36). □

Option 050-44
Increase Competition Between DoD and Private-Sector Housing

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-695	-35
2003	-709	-315
2004	-723	-551
2005	-736	-637
2006	-751	-677
2002-2006	-3,614	-2,216
2002-2011	-7,596	-6,026

RELATED CBO PUBLICATION:

Military Family Housing in the United States (Study), September 1993.

Most military families receive cash allowances for housing and buy or rent dwellings in the private sector. About one-third, however, live rent-free in on-base housing. It costs the Department of Defense about 35 percent more to provide a housing unit than it costs to rent a comparable unit in the private sector. Despite the cost, DoD intends to keep its inventory of housing. The department has been experimenting with public/private partnerships that could provide private capital to replace or revitalize on-base housing units, many of which are nearing the end of their service life. DoD plans to increase the number of such partnership arrangements under a five-year extension of authority that the Congress granted in 2000. Progress to date, however, has been less than planned, and many families remain in substandard units. Moreover, whether such partnerships will reduce the long-term costs to DoD of providing on-base housing is uncertain.

This option would reduce the demand for on-base housing by requiring it to compete with private-sector housing. All military families would receive a cash housing allowance and be free to choose between DoD and private-sector units. DoD—and any companies it takes on as partners—would act like a private landlord, setting rents for on-base units at market-clearing levels (levels at which there would be neither excess vacancies nor waiting lists). On-base housing units would be replaced or revitalized if they met one of two criteria: their value to service members (the market-clearing rent they could command) was sufficient to cover both operating costs and amortized capital costs, or DoD deemed the units indispensable because of their historical nature or importance for military readiness. Those criteria would limit DoD to revitalizing or replacing about 25 percent of its existing housing stock.

The principal advantage of this option would be savings to DoD, which could amount to more than $6 billion in outlays through 2011. The main source of those savings would be lower revitalization and replacement costs as DoD retired aging units rather than investing in ones that could not cover their costs in competition with private-sector housing. Among other advantages, this option would let DoD focus on its warfighting mission rather than on real estate management, eliminate waiting lists for on-base units, and equalize the value of the housing benefits that it provides to families living on- and off-base. (For a different approach to equalizing those benefits, see the previous option.) Moreover, the housing costs that service members as a whole pay out of pocket would not change: if rents paid to DoD exceeded the housing allowances paid to personnel living in DoD units, the excess would be returned to all service members through an increase in allowance rates.

The main disadvantage of this option is that although, on average, military families would not pay more out of pocket, families that chose to live on-base would face higher costs than they do today. In addition, opponents of these changes might argue that housing soldiers and their families on-base promotes esprit de corps, morale, and a sense that the military "takes care of its own." This option would represent a significant break with military tradition. As a result, it could have a negative impact on morale unless it received strong public support from senior military leaders. □

Option 050-45
Create Incentives for Military Families to Save Energy

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-5	-5
2003	-26	-26
2004	-54	-54
2005	-67	-67
2006	-68	-68
2002-2006	-220	-220
2002-2011	-581	-581

RELATED CBO PUBLICATION:

Military Family Housing in the United States (Study), September 1993.

The Department of Defense spent about $303 million last year on gas, electricity, and water for the approximately 211,000 family housing units in the United States that it owns. DoD's efforts to reduce those costs by promoting resource conservation have met with limited success. One reason is that service members living in DoD-owned housing do not pay for their utilities and may not even know how much gas, electricity, and water they use. Landlords in the private sector have found that utility use typically declines by about 20 percent when tenants are responsible for their own utility bills.

This option would install utility meters in DoD housing units, provide cash utility allowances to the families living there, and then charge for utilities based on actual use. Residents who spent less than their allowance could keep the savings; those who spent more would pay the extra cost out of pocket. The budget for allowances would be set equal to the expected cost of utilities under the new system, or about 80 percent of what DoD now spends. The department would allocate that amount among the different housing units on the basis of their size, energy efficiency, and location. Once the program was established, the allowance budget for each year could be set equal to the previous year's actual utility charges plus an adjustment for inflation. As such, if service members were able to cut their utility usage by more than 20 percent, allowances would fall and the savings from this option would increase. If, however, 20 percent overestimates members' true ability to conserve, allowances would be higher and the savings would be less.

Because families who conserved aggressively would receive more in allowances than they would be charged for utilities, this option would reward people who tried to conserve energy. Families who did not economize would face utility bills in excess of their allowance. However, in the case of some housing units, the allowances might not account for physical characteristics that made energy conservation difficult. People living in such a unit might find that the allowance did not cover all of their utility costs even after they had made reasonable conservation efforts.

The principal advantage of this option is that it would reduce DoD's costs by giving military families who live on-base the same incentives for conservation as most homeowners and renters—including military families living off-base. Although DoD would incur the up-front costs of determining allowance amounts, setting up a billing system, and installing meters, this option could provide total savings of $581 million from 2002 through 2011.

Many DoD housing units already have a connection where a meter could be installed. Nonetheless, a temporary exemption from the metering requirement

(and the utility allowances and charges) could be given for some older units if the Secretary of Defense certified that metering them was not feasible. □

Option 050-46
Improve Military Families' Access to Child Care

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	599	339
2003	1,052	826
2004	992	982
2005	930	1,002
2006	954	984
2002-2006	4,527	4,133
2002-2011	9,666	9,229

Access to affordable, high-quality child care is important to many families of military and civilian personnel of the Department of Defense. Obtaining that access, however, can be particularly difficult for employees at isolated bases or for military families who must move frequently.

This option would increase DoD's support for child care in two ways. First, it would provide $434 million over five years for constructing DoD child care centers (to create spaces for an additional 25,000 children) as well as funds to cover DoD's share of the operating costs of those spaces. Second, it would provide matching funds to military families with eligible child care expenses who were either unable to get slots in DoD centers or preferred to rely on in-home or other sources of care. (Eligible expenses would be defined in the same way that they are for the federal tax credit for child care.) DoD's matching rates would be set so that families who received matching funds got the same kind of subsidy as families who used DoD child care centers. Thus, although DoD would, on average, match expenditures on a one-for-one basis, the matching rate could be higher for junior personnel and lower for senior personnel. DoD's matching payments would be capped at $4,039 per child per year (adjusted for inflation), which equals the department's average share of the operating cost of a slot in a child care center.

DoD helps ensure access to child care through two main programs. One program consists of around 800 day care centers (known as child care development centers) that DoD runs on military bases. Those high-quality centers have the capacity to care for about 60,000 children. Fees paid by patrons cover about half of the centers' operating costs, and appropriated funds cover the rest. The other program is a network of DoD-certified in-home caregivers, or family child care homes. Those in-home caregivers are often the spouses of military personnel. DoD has certified almost 10,000 in-home caregivers, who can care for about 60,000 children, and the services are beginning to encourage more use of those family child care homes. Military families who use that type of care generally pay the full cost, although the services share part of it at some installations.

Despite their size, those two programs serve only a minority of the DoD workers in need of child care. Most military families rely on the same kinds of public and private child care arrangements as non-DoD employees. In some cases, that is a matter of preference; in other cases, it reflects a shortage of DoD-sponsored care. According to the department, another 256,000 child care spaces (in either centers or family homes) are necessary to fully meet the needs of military families. The demand for additional spaces in on-base child development centers is particularly acute; applicants often face long waiting lists. But DoD's ability to provide additional slots in those centers is limited both by the initial cost of construction and by the need to cover half of the annual operating costs.

This option would not resolve all of DoD's child care issues; some DoD centers might continue to have waiting lists. Nonetheless, the additional funds for child care centers and the matching grants included in this option would have an immediate impact on service members' access to high-quality, affordable child care. Not only would care in the DoD centers be more readily available, but the matching

payments would encourage families who do not use those centers to seek higher-quality care than they might otherwise, since they would pay only half of the additional cost.

The price tag for that improved access would be substantial—about $1 billion annually—because it would benefit all military families who needed child care, not just those who used on-base centers. Families who preferred in-home care for their children, had special needs that their local DoD center could not meet, were seeking care near an off-base home or workplace, or needed child care on an unscheduled basis, only in the summer, or overnight would no longer be at a disadvantage relative to those preferring care in large on-base centers. A child care system that provided support to all families in need might appear more equitable than the current system.

Wider access to child care benefits would also have a negative aspect, however. It would widen the already significant gap between the value of the compensation packages that DoD provides to single and to married personnel (see option 050-36). One way to alleviate that concern and also reduce the cost of this option would be to lower the average matching rate for in-home or other child care. But unless the law that requires DoD to pay half of the operating costs of on-base centers was changed, that approach would leave families who relied on the matching grants at a disadvantage relative to those who used on-base centers.

In the long run, the matching payments in this option could reduce the pressure on DoD to expand its system of on-base care. That would be a disadvantage in the eyes of people who feel that the current system helps foster a sense of community by encouraging military families to bring their children to the base for day care even if they live off-base. But two advantages would potentially offset that disadvantage. First, this option would allow DoD to concentrate more on its core missions. Second, and perhaps more important, this option would provide immediate relief to many military families seeking affordable child care. ◻

Option 050-47
Consolidate and Encourage Efficiencies in Military Exchanges

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-59	-43
2003	-80	-70
2004	-100	-92
2005	-103	-99
2006	-106	-103
2002-2006	-447	-408
2002-2011	-1,016	-968

RELATED CBO PUBLICATION:

The Costs and Benefits of Retail Activities at Military Bases (Study), October 1997.

The Department of Defense operates three chains of military exchanges—the Army and Air Force Exchange Service, the Navy Exchange Command, and the Marine Corps exchange system. Those chains provide a wide array of retail stores and consumer services at military bases and have combined annual sales of about $10 billion.

This option would consolidate the three systems into a single retail organization. In addition, it would introduce incentives for more efficient operations by requiring the combined system to pay all of its operating costs out of its own sales revenue, rather than relying on DoD to provide some services free of charge. Those changes would save more than $100 million annually—approximately $65 million from the consolidation and $45 million from operating efficiencies. (The next option would go one step farther and consolidate the exchanges with DoD's separate network of commissaries.)

Numerous studies sponsored by the Office of the Secretary of Defense have shown that consolidating the exchange systems could lead to significant

efficiencies. It would eliminate the costs of duplicative purchasing and personnel departments, warehouse and distribution systems, and management headquarters. Although consolidation would entail some one-time costs, the Congressional Budget Office estimates that those costs would be more than offset by one-time savings from the reduction in inventories that consolidation would permit.

Besides consolidating the three systems, this option would encourage more efficient use of resources and improve the exchanges' visibility in the defense budget by requiring the combined system to pay all of its operating costs out of sales receipts. DoD provides the exchanges with about $400 million in free services each year, CBO estimates. Those services include maintaining some parts of exchange buildings (such as roofs, windows, and heating and cooling systems), transporting goods overseas, and providing utilities at overseas stores. Under this option, the combined system would reimburse DoD for the cost of such services and would thus have an incentive to economize on their use.

Today, earnings from the exchanges are used to support the military's morale, welfare, and recreation (MWR) activities, which contribute to service members' quality of life. If the combined exchange system continued to provide earnings to support MWR programs, it would do so from earnings that represented receipts in excess of the full cost of exchange operations. To compensate the MWR programs for the lower exchange earnings that could result, this option assumes that the Congress would appropriate additional funds to those programs. That would increase the Congress's control over spending on MWR activities.

One obstacle to implementing this option would be the need to find an acceptable formula for allocating MWR funds among the individual services. The services might be concerned that they would not receive a fair share of the earnings from a combined exchange system or of the additional appropriations for MWR activities. In addition, they might fear that over a period of years, the Congress would reduce the amount of additional funding appropriated for MWR programs.

Some critics of consolidation argue that the Navy Exchange Command and the Marine Corps system, with their unique service identities, are better able to meet the needs of their patrons than a larger, DoD-wide system would be. But proponents of consolidation point to the Army and Air Force Exchange Service, which has successfully served two distinct services for many years. People who shop in exchanges say their main concern is the ability of exchanges to offer low prices and a wide selection of goods—a concern that a consolidated system might be able to satisfy more effectively. □

Option 050-48
Consolidate DoD Retail Activities and Increase Cash Compensation

	Costs or Savings (-) (Millions of dollars) Budget Authority	Outlays
2002	0	0
2003	0	0
2004	0	0
2005	0	0
2006	0	0
2002-2006	0	0
2002-2011	0	0

RELATED CBO PUBLICATION:

The Costs and Benefits of Retail Activities at Military Bases (Study), October 1997.

The Department of Defense operates four separate retail systems on military bases: a network of grocery stores (commissaries) for all of the services and three chains of general retail stores (exchanges) for the Army and Air Force, the Navy, and the Marine Corps. This option would consolidate those systems into a single, more efficient retail chain that would operate without any appropriated subsidy. The consolidated system would be responsible for giving military personnel access to low-cost groceries and other

retail goods at all DoD installations, including those in isolated or overseas locations.

The current commissary and exchange systems share the same goal, but they operate under very different funding mechanisms. The commissary system, which is run by the Defense Commissary Agency (DeCA), has annual sales of about $5 billion and also receives a Congressional appropriation of about $1 billion a year. The three exchange systems (the Army and Air Force Exchange Service, the Navy Exchange Command, and the Marine Corps exchange system) have annual sales totaling about $10 billion. They do not receive direct appropriations; instead, they rely on sales revenue to cover their costs.

One reason that exchanges can operate without an appropriated subsidy is that they charge their customers a higher markup over wholesale prices than commissaries do. Another reason is that the exchange systems are non-appropriated-fund (NAF) entities rather than federal agencies, which enables them to use more flexible and businesslike personnel and procurement practices. DeCA, by contrast, is a federal agency, so its employees are civil service personnel and it follows standard federal procurement practices.

Under this option, the commissary and exchange systems would be consolidated over a two-year period. When that process was complete, DoD's costs would be about $1.1 billion a year lower (in 2000 dollars)—about $1 billion from eliminating the subsidy for commissaries and $100 million from eliminating duplicative functions among the exchange systems. Rather than saving that money, however, this option would return the $1.1 billion to active-duty service members through either an increase in basic pay (averaging about $600 per member per year before taxes) or a tax-free grocery allowance of $1,000 per year payable to each member who is eligible to receive the current cash allowances to cover food costs. The pay raise or grocery allowance would be phased in to coincide with the consolidation of commissary and exchange stores at each base.

Low-cost on-base shopping has long been a benefit of military service. But recent declines in the size of U.S. forces and changes in the civilian retail industry have made it more difficult and costly for DoD's fragmented retail systems to provide that benefit. Both commissaries and exchanges must now compete with large discount chains that offer low-cost, one-stop shopping for groceries and general merchandise just outside the gates of many military installations.

The annual operating costs of a consolidated retail system using NAF rules would be about $250 million less than the combined costs of the four current systems, the Congressional Budget Office estimates. Nonetheless, to operate without appropriated funds, the consolidated system would have to charge about 10 percent more for groceries than commissaries do now. (That estimate is based on the difference between the 20 percent markup that exchanges charge and the 5 percent markup that commissaries charge, the amount that commissary customers currently pay to have their groceries bagged, and evidence that exchanges pay lower wholesale prices than commissaries do for the same goods.) At the current level of commissary sales, a 10 percent price increase would cost customers an extra $500 million annually.

About $250 million of that price increase would be borne by the military retirees who now shop in commissaries. As a result, this option could face strong opposition from associations of retirees. The average family of a retired service member would pay an additional $140 per year for groceries.

Active-duty members, by contrast, would clearly benefit from consolidation. The average active-duty family would pay about $230 more per year for groceries—far less than the additional basic pay or grocery allowance they would receive under this option. (A military family would have to spend about $10,000 per year on groceries in commissaries before a 10 percent price increase outweighed the benefits of a $1,000 allowance.) Cash allowances would be particularly attractive to personnel who live off-base and can shop near their home more conveniently than on-base. Moreover, all military families—active-duty, reserve, and retired—would gain from longer store hours, more convenient one-stop shopping, access to private-label groceries (not currently available in commissaries), and the security of a military shopping benefit that did not depend on the annual appropriation process.

DoD could target the $1.1 billion in cash payments to service members in a variety of ways. An allowance based solely on pay grade might be the most effective in enhancing retention and rewarding service members for their work. However, some people might argue that an allowance tied to pay grade and family size would be more equitable. If desired, supplemental payments could be made to junior enlisted personnel who have large families and might otherwise be eligible for Food Stamps.

Under this option, commissary patrons as a whole would give up about $500 million a year in savings in exchange for $1.1 billion in cash payments to active-duty personnel. Such a trade-off could increase retention among active-duty members. Nonetheless, the change would represent a break with military tradition. Thus, unless it received public support from senior military leaders, it might harm the morale of the active-duty force. □

Option 050-49
Eliminate DoD's Elementary and Secondary Schools

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	19	17
2003	-3	-1
2004	-30	-27
2005	-51	-48
2006	-68	-66
2002-2006	-133	-125
2002-2011	-746	-730

The Domestic Dependent Elementary and Secondary Schools (DDESS) system operates schools on several military bases in the United States to educate dependents of military personnel living on those bases. The Department of Defense also operates a separate school system for military dependents living overseas.

This option would phase out most of the schools that DDESS runs in favor of increased use of local public schools and would consolidate management of any remaining DDESS schools into the much larger overseas school system. Those changes would save DoD a total of $1.3 billion in outlays between 2002 and 2011. Savings for the federal government as a whole would be less—about $730 million through 2011—because the Department of Education would have to spend more on Impact Aid, which it provides to local school districts that enroll dependents of federal employees. (These cost estimates assume that funding for Impact Aid would immediately increase so that the average amount paid per student living on federal land would remain at its current level.)

Critics would argue that DDESS takes an uneven and largely arbitrary approach to educating the dependents of active-duty service members. The distribution of DDESS schools is mainly a historical accident, dating to the time when segregated public schools in the South did not adequately serve an integrated military. The great majority of military bases in the United States have no DDESS school. And where such schools do exist, they generally enroll only dependents of active-duty members who live on-base; those living off-base, and dependents of civilian employees, are the responsibility of local school districts. In addition, most bases with DDESS facilities offer only elementary and middle schools; high school students living on-base use the public schools. In most of the places where DDESS operates schools, accredited public schools are readily available—with the possible exceptions of Guam, Puerto Rico, and West Point, where DoD would continue to run domestic schools under this option.

Closing DDESS schools need not create major disruptions. The roughly 30,000 students who might be affected already change schools frequently, in large part because they move often as their military parent is reassigned. In many locations, the public school district could continue to use the DDESS facility. (DoD already offers support to some local dis-

tricts by allowing public schools to operate on-base or providing additional limited funding on a per-student basis.) Finally, to ease the transition, DDESS schools would be phased out at a rate of one per district per year rather than all at once. And the local school districts would receive additional one-time funding and transfer of facilities and equipment to help them absorb their new teaching load.

This option might have several disadvantages, however. First, many parents of DDESS students might be reluctant to see the schools phased out because they believe DoD schools offer higher-quality education. Second, if local school districts did not maintain the on-base schools, former DDESS students might face longer commutes. Third, some of the savings to the federal government from this option would be offset by increased costs to local school districts. In the past, those districts have effectively been subsidized by not having to pay any of the costs of educating DDESS students while receiving at least some direct and indirect tax revenues from their parents. This option would eliminate that subsidy. □

Requirements for Personnel

As it does for virtually every other aspect of the armed forces, DoD has stated requirements for numbers of military personnel. But there is not always a clear relationship between those requirements and DoD's military capabilities. Before devoting resources to meeting personnel requirements, it may be appropriate for DoD to reassess them.

Two options below examine ways that DoD might achieve a more cost-effective military force by changing its stated requirements for personnel. One outlines ways to reduce requirements for Air Force and Navy pilots by changing the traditional career paths for those officers. The other option would return the ratio of enlisted personnel to officers and the proportion of officers in the field grades to the levels seen before the drawdown of the 1990s. That option is consistent with the view that recent trends in the officer corps have been driven not by requirements but by changes in the mix of personnel that emerged as a result of the drawdown.

Option 050-50
Cut Requirements for Pilots in Nonflying Positions

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-66	-52
2003	-95	-86
2004	-114	-107
2005	-134	-127
2006	-154	-147
2002-2006	-563	-520
2002-2011	-1,482	-1,422

RELATED CBO PUBLICATION:

Statement of Christopher Jehn, Assistant Director, National Security Division, before the Subcommittee on Military Personnel of the House Committee on Armed Services (Testimony), March 4, 1999.

The Air Force and the Navy have fewer pilots than their stated requirements call for. In 2000, the two services reported a combined shortfall of more than 2,400 pilots. The services have undertaken several initiatives to address that problem, including paying pilots special bonuses under the Aviation Continuation Pay program. But despite those efforts, pilot shortfalls are expected to persist for the foreseeable future.

Both services have many more pilots than they need to fill critical cockpit, or flying, positions. The shortfalls reflect the fact that they have included many positions that do not routinely involve flying in their requirements for pilots (positions in such fields as air operations, research and development, and procurement management). At the end of 2000, for example, about 30 percent of the Air Force's roughly 12,300 pilots were in nonflying positions, as were about 12 percent of the Navy's 6,700 pilots.

The services have taken steps to reduce some of their stated requirements for pilots in nonflying positions. This option would emphasize more use of that approach to address the problem of pilot shortages. Cutting nonflying requirements by two-thirds would save $52 million in outlays in 2002 and $1.4 billion over 10 years by reducing the number of pilots who would need to be trained.

Supporters of this option would argue that some of the nonflying positions identified as needing pilots are already being adequately filled by personnel with other backgrounds. In addition, the services could employ aviation navigators in some nonflying positions that require the expertise of a pilot.

The principal disadvantage of this option is that reducing the number of nonflying positions reserved for pilots could limit pilots' opportunity to gain the broader experience they need to progress in their careers. That problem might be alleviated, however, if the Air Force and Navy established a fly-only career path specifically for pilots who wanted to spend all 20 years of their military service in flying assignments. (Some pilots have indicated that they joined the military to fly and might be willing to stay in such a career path even if it limited their ability to be promoted.) A fly-only career path would lessen the number of nonflying positions needed to provide pilots with career-broadening opportunities. However, another disadvantage of cutting requirements for pilots in nonflying positions is that it might not leave enough shore positions for Navy pilots to rotate into between their tours at sea. □

Option 050-51
Restructure the Officer Corps

As part of the post-Cold War drawdown in the military, each of the services cut its officer corps significantly. Those cuts, however, were accompanied by a change in the composition of the armed forces. The ratio of enlisted personnel to officers declined from 6.0 to 1 in 1989 to 5.3 to 1 in 2000 because the officer corps was cut by a smaller percentage than enlisted personnel. The percentage of senior officers—those in the general or flag grades as well as the so-called field grades (major through colonel)—rose. The percentage of officers who entered the military through the service academies also increased.

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	266	26
2003	11	-169
2004	-266	-396
2005	-559	-639
2006	-1,192	-972
2002-2006	-1,740	-2,150
2002-2011	-8,373	-8,303

RELATED CBO PUBLICATION:

The Drawdown of the Military Officer Corps (Paper), November 1999.

This option would offset those apparent consequences of the drawdown. It would return the enlisted-to-officer ratio and the percentage of general and flag-level officers to the levels that existed in 1989, when the drawdown began. In addition, the percentage of newly commissioned officers trained in the service academies would be reduced. The option would also reduce the number of field-grade officers, restoring the limits on those positions to levels consistent with the Defense Officer Personnel Management Act before the drawdown. Those changes would save a total of $8.3 billion in outlays through 2011.

In carrying out the drawdown, the services tried to protect officers who were already in the force, many of whom had based their career expectations and financial plans on continued military service. The decline in the enlisted-to-officer ratio suggests that those efforts may have created an unbalanced force. The services might argue that the decline was driven by changing requirements as a result of new technologies and military doctrines that have decreased the need for enlisted personnel relative to the need for officers. But some critics see the timing of the shift as suspicious. Moreover, when the drawdown began, none of the services expected that their

future requirements for enlisted personnel would fall as much as they did relative to requirements for officers. This option would restore the enlisted-to-officer ratio to the 1989 level of 6.0 to 1 by reducing the size of the officer corps by about 11,800 and increasing the size of the enlisted force by an equal amount.

That reduction would be targeted primarily toward officers in the field, general, and flag grades. The percentage of general and flag officers would be reduced gradually to the 1989 level by restricting promotions into those grades. Reductions in the field grades could be achieved by encouraging officers to leave the service voluntarily, through such programs as the temporary early retirement authority (TERA), voluntary separation incentive (VSI), and special separation benefit (SSB). (Although those programs were used actively in the past, today their use is very limited.)

Over a period of four to five years, the number of general or flag officers would be reduced by about 200 through attrition, while about 10,800 field-grade officers and 830 junior officers (second lieutenant through captain) would be separated from service. Assuming that field-grade officers with less than 20 years of service would receive TERA and those with 6 to 15 years of service would receive VSI or SSB, the savings in pay would initially be offset entirely by the cost of separation payments. Through 2011, however, net savings in pay would amount to a total of $7.8 billion.

Supporters of this option would argue that the services' actions have resulted in a force that is too senior and contains more officers than needed to lead the remaining enlisted personnel. In their view, much of the expertise and combat readiness that senior officers provide could be obtained at lower cost from highly capable senior enlisted personnel and junior officers. Opponents, by contrast, might argue that separating additional senior officers would constitute a breach of faith because it would cut short the careers of some service members. Moreover, the services' efforts to implement the Goldwater-Nichols Defense Reorganization Act of 1986 and the Defense Acquisition Workforce Act of 1990 may have increased requirements for those relatively senior officers.

This option would also return the mix of academy and nonacademy graduates entering active duty to the level that prevailed before the drawdown. Although the number of students in the service academies declined during the drawdown, academy graduates now account for 13 percent of new officers compared with 9 percent in the early 1980s. Under this option, the total number of officer accessions would remain near the level planned by the Department of Defense, but the services would draw more officers from lower-cost commissioning programs—the Reserve Officer Training Corps (ROTC) and Officers Candidate School/Officer Training School (OCS/OTS)—and fewer from the more costly service academies. The estimated savings from that action reflect only the costs that would change in the near term, such as operating expenses and pay for faculty and cadets. Those savings would be partially offset by additional costs of about $138 million over 10 years to procure officers from OCS and ROTC to replace those from the academies. As a result, this change would save $14 million in outlays in 2002 and a total of nearly $553 million through 2011. In the longer term, savings might also accrue from changes in the academies' physical structure.

Supporters of changing the mix of new officers might argue that the academies are larger than many successful private colleges and that additional cuts to them are feasible. Moreover, a balanced mix of academy graduates and accessions from other commissioning programs may be needed to maintain good civil/military relations and ensure that the officer corps reflects the full diversity of U.S. society. Opponents of that change would contend that the service academies are the best source of future military leaders and that academy graduates are well worth the dollars spent on them. Some opponents might also argue that the academies have already reduced their class size to the minimum efficient level. □

Military Facilities and Equipment

To be ready for their missions, military units must have well-maintained equipment and facilities. Much of DoD's spending on readiness is devoted to that purpose. The department spends approximately $38 billion a year on maintaining equipment, including the costs of intermediate maintenance performed at

on-base repair shops, repair tasks performed at DoD's centralized maintenance depots, and tasks performed by contractors. In addition, it devotes almost $24 billion a year to replacing, operating, and maintaining its infrastructure of buildings and facilities.

Maintaining equipment and facilities contributes to readiness directly by improving a unit's ability to carry out its assigned duties. That effect is most evident in the case of maintenance for combat systems: one of DoD's most important indicators of readiness is the extent to which equipment is maintained in a condition that allows a unit to perform its missions (the mission-capable rate). The link between facilities and readiness is less direct, although senior defense officials argue that poorly maintained operational facilities can affect the safety and speed at which tasks are performed.

The quality of military equipment and facilities also contributes to readiness indirectly through its impact on morale, recruiting, and retention. That relationship may be most obvious in the case of quality-of-life facilities, such as on-base housing or buildings devoted to morale, welfare, and recreation programs. But poor working conditions and inadequately maintained equipment can also affect morale.

In addition, funds spent on keeping equipment and facilities from deteriorating and developing more serious maintenance problems contribute to readiness over the long run. By reducing the cost of future maintenance, those funds free up resources for other readiness needs. Even in the short run, failure to budget enough for maintaining and operating buildings can force base commanders to shift resources away from high-priority readiness programs (including unit training) to meet emergency needs.

Support of DoD Facilities. DoD is trying to develop a consistent and objective method for determining how much funding it requires to provide high-quality facilities for military personnel. Until it achieves that goal, estimates of funding shortfalls for maintenance of real property will remain uncertain. Nonetheless, comparisons of DoD spending with levels in the private sector suggest that the department tends to underfund real property maintenance. At various times, both the Congress and the Office of the Secretary of Defense have tried to increase that funding. In the late 1970s, the Congress responded to concerns about the "hollow force" by trying to keep the backlog of unfunded requirements for real property maintenance at the 1978 level. At other times, the defense planning guidance issued by the Secretary has set a minimum for the amount of real property maintenance to be funded relative to requirements. Among the options below are ones that would provide additional funding to maintain or replace aging facilities.

In many cases, however, DoD may not need to maintain its existing inventory of real property. The military has large numbers of excess bases and facilities. Since the beginning of the drawdown, the average square footage of DoD buildings per active-duty service member has risen by about 35 percent. Options that would allow DoD to close additional bases might help it bring its ownership costs under control. Other options that would reduce the need for additional funding would demolish excess buildings or lower the costs of operating buildings that remain in the inventory. In addition, options above that would reduce DoD's role in providing retail stores, housing, and medical care could significantly cut ownership costs by allowing the department to scale back the number of facilities it maintains.

Support of Equipment. The military also faces a number of challenges in its efforts to keep equipment in good working order. According to the services, the aging of equipment increases both the hours that must be spent on maintenance activities and the number and cost of spare parts. Other concerns cited by military leaders include a lack of well-trained maintenance personnel and wear and tear on equipment from an increased pace of operations. A further problem is shortages of spare parts—resulting not only from inadequate funding but also from inaccurate forecasts of requirements and poor control over existing inventories.

Despite those challenges, neither the Army nor the Marine Corps is reporting major problems with the readiness of equipment in its ground units. However, some observers believe that the two services' success in keeping their aging equipment mission-capable is being achieved at the cost of unreasonably long working hours for maintenance personnel. To the extent that excessive workloads affect retention, that may not be a sustainable strategy. Unit com-

manders in the Army report that the availability of maintenance personnel with the right skills and experience is their most significant equipment-readiness problem. And if maintenance personnel are heavily pressed in peacetime, their ability to maintain equipment at a wartime tempo of operations could be doubtful. Both the Army and the Marine Corps argue that modernization of equipment is necessary to prevent greater demands for maintenance in the future.

In the Air Force and Navy, by contrast, shortages of spare and repair parts have hurt the readiness of aviation units. The Navy reports that maintenance problems have contributed to a cycle in which the readiness of nondeployed air wings has declined further each year since 1996, forcing ever-greater shifts in resources to units just before deployment. In the Air Force, lack of adequate spare parts accounts for about half of the 10 percentage-point decline in overall mission-capable rates since 1991. Shortages of spare parts have also been a problem for Marine Corps aviation units. According to DoD, such shortages for Navy, Air Force, and Marine Corps aircraft result in part from unexpectedly high failure rates for some parts, past constraints on funding, and problems encountered in trying to introduce modern business practices, such as just-in-time delivery for spare parts.

Those problems, however, are not necessarily a sign that additional funding is needed now. It can take 12 to 36 months for spare-parts funding to affect supplies at the unit level, so today's low mission-capable rates in some operational units could be primarily a legacy of past problems. The Air Force and Navy continue to predict, as they have for some time, that funding now in the pipeline will improve their mission-capable rates. Whether past increases in funding for spare parts will significantly improve readiness in the near term remains to be seen.

Even if current funding is adequate and problems with equipment readiness are being resolved, additional steps may be needed to forestall future problems in both ground and air units as weapon systems continue to age. One of the options below looks at improving the condition of existing systems by replacing components that have high failure rates or rely on obsolete technology with more reliable components that, because they use current technology, might also be easier for the supply system to stock. Other options focus on DoD's ability to manage and control the cost of its maintenance activities. Although management initiatives are generally seen as ways to cut costs, they could also make high-quality maintenance less costly and thus more available over the long run.

Option 050-52
Increase Funding for Military Construction

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	767	104
2003	785	432
2004	801	655
2005	818	752
2006	834	806
2002-2006	4,005	2,749
2002-2011	8,431	7,151

When defense budgets are tight, one type of investment that is frequently deferred is military construction—particularly construction not associated with actions to close or realign military bases. Eventually, however, outdated or inadequate facilities can have a negative impact on the readiness and morale of U.S. troops. This option would increase funding for military construction by $750 million a year (in 2001 dollars) through 2011. Those funds would allow the Department of Defense to increase its military construction by more than 15 percent per year above planned levels.

At the current level of spending, DoD could replace its inventory of real property every 145 years—more than double the 67-year service life that the department recommends. Thus, when the average DoD facility reaches the end of its designated service life, it will be maintained rather than replaced. But as

facilities age, they often become more expensive to maintain. At some point, it may be cheaper to construct a new facility than to continue maintaining an older one. Additional funding for military construction would allow the services to replace facilities when that was cost-effective.

Each of the military services has expressed concern about the increasing age of its facilities. The services argue that additional funds are needed to finance projects directly related to mission capabilities (such as runways, piers, and training facilities) as well as quality-of-life projects (such as barracks) that contribute to readiness through their impact on retention and morale. The services always have a long list of construction projects they could undertake if funds were available, however, so it is difficult to know how much military construction funding they actually need.

One way to estimate that amount is to compare current funding with the levels of the 1980s, a period of relatively ample defense spending. The results of that comparison, however, vary widely depending on the measure used. To match the levels of spending per active-duty member seen in the 1980s, DoD would have to increase its planned spending by about $750 million a year (in 2001 dollars). To keep funding proportional to the square footage of buildings in DoD's inventory, by contrast, the increase would need to be about $2.3 billion a year. That latter amount is probably an overestimate because DoD has a large number of excess buildings in its inventory that will be demolished when they reach the end of their service life. To avoid giving DoD money to replace unneeded facilities, the funding increase in this option is based on the lower estimate.

The principal disadvantage of this option is its cost, which would amount to $8.4 billion over 10 years. Because military construction has an indirect impact on mission capabilities, the benefits of additional construction projects are difficult to quantify. Thus, it is unclear whether additional funds would be better spent on construction projects or on other defense needs, such as weapons procurement. In addition, extra funds run the risk of being earmarked for projects that DoD does not consider its most pressing needs. □

Option 050-53
Increase Funding for Real Property Maintenance

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	720	533
2003	742	690
2004	763	738
2005	783	772
2006	803	797
2002-2006	3,810	3,530
2002-2011	8,138	7,832

The services' real property maintenance (RPM) accounts are used to finance major and minor repairs, recurring maintenance, and related activities for the Department of Defense's stock of real property. RPM contributes to the readiness of U.S. forces by helping to ensure that facilities such as runways, docks, and piers are properly maintained and capable of their intended uses. In addition, DoD argues, having properly maintained facilities contributes to the quality of life of U.S. soldiers; crumbling roofs and exposed wiring in barracks, military hospitals, or work areas could be detrimental to morale, if not dangerous.

This option would increase funding for real property maintenance by $700 million per year (in 2001 dollars) in 2002 through 2011—from the current annual level of $5.3 billion up to $6 billion. That increase would cost DoD a total of about $8.1 billion in budget authority through 2011.

According to testimony given by the services, the condition of DoD facilities has degraded in recent years. The Army has testified that the average age of its facilities is 44 years, approaching the end of their designated service life (67 years). As facilities age, the amount of maintenance they require increases. Commanders at some installations have reallocated

resources originally appropriated for training and other operation and maintenance activities to their RPM accounts, which suggests the need for additional funding.

According to some criteria, DoD is significantly underfunding the maintenance of its facilities. For example, the Federal Facilities Council recommends funding maintenance activities for real property at a level of 2 percent to 4 percent of the cost to replace the property. DoD currently funds RPM at less than 1 percent of the replacement value of its inventory of facilities. Following the council's recommendation and funding maintenance at just 2 percent of replacement value would require an additional $7 billion per year.

The $700 million annual increase in this option would improve DoD's ability to maintain its facilities but would be unlikely to result in overfunding that might encourage the department to maintain unneeded facilities. The actual amount of additional funding that DoD might need is uncertain, however. DoD's Installations Policy Board is trying to determine the appropriate level of spending on property maintenance. The board is encouraging a number of cross-service programs to provide common definitions and standards for measuring requirements, but their work is not yet complete.

Some critics of this option would argue that DoD has other pressing needs, including weapons procurement, that have a better claim to additional resources. DoD could control maintenance costs, they would say, through other approaches, such as demolishing excess facilities (see option 050-55) or replacing aging structures. Other opponents of this option, however, would contend that an increase of $700 million a year might not be enough to allow DoD to stem the deterioration of its facilities. □

Option 050-54
Close and Realign Additional Military Bases

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	0	0
2003	0	0
2004	554	172
2005	1,159	559
2006	867	790
2002-2006	2,580	1,521
2002-2011	-8,825	-4,366

RELATED CBO PUBLICATIONS:

Review of *The Report of the Department of Defense on Base Realignment and Closure* (Letter), July 1998.

Closing Military Bases: An Interim Assessment (Paper), December 1996.

Beginning in the late 1980s, the Department of Defense sought to reduce its operating costs by closing unneeded military bases. Significant reductions in force structure at the end of the Cold War made many bases unnecessary. Because political and procedural difficulties had long made closing bases nearly impossible, the Congress set up four successive independent commissions on base realignment and closure (BRAC). Those commissions recommended shutting or realigning (moving departments and facilities at) hundreds of military installations in the United States, Puerto Rico, and Guam. When all of the actions from the four BRAC rounds are completed, DoD will save about $5.6 billion a year in operating costs, it estimates.

This option would authorize two additional rounds of base closures and realignments in 2003 and 2005. In the long run, such actions can produce substantial savings. However, they require some upfront investment, so costs would increase in the short run. Between 2002 and 2011, this option would reduce DoD's costs by a net total of $8.8 billion in budget authority. Beginning in 2012, the department could realize recurring savings of around $4 billion per year. Those estimates are based on DoD's experience and current projections for the earlier rounds of base closings. (The estimates do not include the costs of environmental cleanup, since DoD is obligated to incur such costs regardless of whether it operates or closes bases.)

Closing and realigning additional military bases is consistent with DoD's overall drawdown of forces. By several measures, planned force reductions significantly exceed the projected decrease in base capacity. For example, the department intends to cut the number of military and civilian personnel by 38 percent from the 1990 level. But according to DoD, only 21 percent of the base infrastructure in the United States has been eliminated.

The Secretary of Defense asked the Congress in early 1998 and again in early 2000 to authorize two more rounds of base closures. In *The Report of the Department of Defense on Base Realignment and Closure* of April 1998, DoD stated that opportunities exist for further cutbacks and consolidations at several types of bases—such as defense laboratories, test and evaluation installations, training facilities, naval bases, aircraft installations, and supply facilities. (A related option, 050-60, would authorize a BRAC round specifically for maintenance depots.)

Some analysts, however, argue that the BRAC cuts have gone far enough in matching the planned reductions in forces. The base structure, they say, should retain enough excess capacity to accommodate new risks to national security that could require a surge in the number of military forces. Opponents of more closures also cite the possible adverse economic effects on local communities. Some opponents suggest that savings could be made by demolishing certain buildings (see the next option) or by achieving other operating efficiencies short of closing bases. □

Option 050-55
Demolish Excess and Obsolete Structures

The defense drawdown has left many military bases with structures that the services no longer need and that have no remaining asset value. Those structures include buildings, such as schools and family housing units, as well as other facilities, such as piers and runways. In some cases, the structures are dangerous eyesores. In other cases, their availability attracts marginal users who benefit from occupying them because the users are not required to pay the full costs of the utilities and other support that the bases provide. Although demolishing those structures would entail up-front spending, it would allow the Department of Defense to avoid future maintenance costs. Estimates by DoD suggest that demolition projects may pay for themselves in as little as five years.

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	30	22
2003	23	22
2004	15	16
2005	7	9
2006	-31	-21
2002-2006	43	49
2002-2011	-129	-115

This option would increase funding to tear down excess, obsolete structures by $35 million a year over the 2002-2005 period. The majority of those annual funds, $30 million, would be allocated to the services' operation and maintenance (O&M) accounts to fund the demolition of excess facilities that are maintained with O&M dollars. The remaining $5 million would be allocated to the family housing accounts to pay for demolishing obsolete family housing units that are too costly to repair. Together, those funds would allow DoD to increase demolitions by 6 percent from planned levels and would generate more than $30 million in annual savings after 2005.

The services expect to tear down 80 million square feet of buildings by 2003 in accordance with a management reform that the Office of the Secretary of Defense (OSD) began in 1997. Recent defense plans have extended the Air Force's and Navy's demolition programs to 2005 to accommodate their large inventories of structures other than buildings. DoD plans to spend a total of $761 million on demolition programs during the 2001-2005 period, with an

estimated savings in O&M costs of $160 million a year after that.

However, DoD officials maintain that the department's inventory of real property will still contain excess structures, such as buildings and other facilities that are maintained with O&M dollars, after the current demolition programs are completed in 2005. Funding above planned levels would be necessary to demolish the rest of those excess structures and generate additional O&M savings. In addition, current OSD plans do not fund the destruction of excess, obsolete family housing units. Although the services' family housing commands have adopted demolition as a key tool in their strategies for real property management, critics argue that the resources devoted to those activities are inadequate.

The primary disadvantage of this option is that the quantity of structures that are both excess and obsolete is unclear. If DoD has underestimated its requirements for facilities, demolition programs may destroy a structure that has a potential use in the future. One alternative to demolition is to board up a facility and cease maintaining it. Nonetheless, as long as structures remain in DoD's inventory, the department is likely to feel pressure to maintain them and make them available to potential users. □

Option 050-56
Pay to Scrap Obsolete Ships in the National Defense Reserve Fleet

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	50	40
2003	50	50
2004	50	50
2005	50	50
2006	50	50
2002-2006	250	240
2002-2011	500	490

The National Defense Reserve Fleet was created in 1946 to meet the government's requirements for shipping during war or other national emergencies. Today, however, many of the ships in that fleet are very old, have no military value, and pose environmental hazards to the ports and bays where they are moored. The Maritime Administration (MARAD), which is responsible for disposing of obsolete ships held by the government, is unable to sell those ships for scrap. Nor does it have the authority or resources to have them scrapped itself. Consequently, the number of ships that MARAD must eventually dispose of is growing.

This option would provide $50 million a year for 10 years to eliminate the 158 ships in the fleet that are already awaiting scrapping. (The Congressional Budget Office estimates that $500 million should pay to scrap most, if not all, of those vessels.)

Until 1997, MARAD was able to sell obsolete ships to foreign companies that would scrap them. In that year, however, the Environmental Protection Agency (EPA) ruled that such sales introduced toxic substances into foreign commerce and thus violated the Toxic Substances Control Act. The Clinton Administration issued a moratorium that restricted MARAD from selling obsolete vessels to foreign countries. Although the moratorium expired in October 1999, MARAD, the EPA, and the Congress have not yet agreed on how or whether the agency can resume selling vessels for foreign scrapping.

The U.S. scrapping industry will not buy those ships for scrap because doing so would not be profitable. Before the ships could be scrapped, all of the environmentally hazardous materials would have to be removed, at a cost of $1 million to $2 million per vessel. But the market value of the scrap metal on the average ship is only about $600,000.

Although all of the ships that are ready to be scrapped require some environmental cleanup, many of them pose an immediate environmental threat to the areas where they are anchored (the James River in Virginia, Suisan Bay in California, and Beaumont, Texas). The ships contain hazardous materials, such as asbestos, cracked and pealing lead paint, PCBs, and fuel oil. Some are severely rusted. If the ships

are not scrapped, they must eventually be dry-docked on nearby beaches—at a cost of about $900,000 per vessel—to prevent contamination of the surrounding waters. And they will still have to be scrapped later.

This option would solve a problem that cannot continue indefinitely. Although maintaining obsolete ships is cheaper in the short run—approximately $3 million per year for all 158 ships that are awaiting scrapping—the hazards posed by those vessels will eventually be great enough to require a permanent solution. Thus, supporters would argue, it makes sense to act sooner rather than later. □

Option 050-57
Sell Surplus Lands Owned by the Department of Energy

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	0	0
2003	-3	-3
2004	-3	-3
2005	-3	-3
2006	-3	-3
2002-2006	-12	-12
2002-2011	-17	-17

The Department of Energy (DOE) controls about 2.4 million acres of land, much of it surrounding sites in the West and Southeast. The government originally set aside those lands to support the nation's efforts to develop nuclear weapons. DOE's Office of Inspector General (IG) has identified 309,000 acres that it considers no longer essential to carrying out the department's central missions. That acreage is part of the Oak Ridge Reservation in Tennessee, the Hanford Site in Washington, and the Idaho National Engineering Laboratory. Additional real property that may be excess but was not evaluated in the IG report exists at such DOE facilities as the Nevada Test Site, the Los Alamos National Laboratory in New Mexico, the Fermi National Accelerator Laboratory in Illinois, and the Savannah River Site in South Carolina.

To demonstrate the potential savings from disposing of surplus properties, this option would require DOE to sell at market value 16,000 acres at the Oak Ridge Reservation that the IG has identified as excess. (The IG proposed transferring other excess property to the Department of the Interior for management as a natural resource.) That sale—which would be conducted over four years to minimize the effect on local land values—could yield savings of $17 million during the 2002-2011 period, including reduced outlays for property management. That sum excludes any savings associated with reducing DOE's liabilities for payments to local governments in lieu of taxes, and it assumes no future federal spending on cleanup or other improvements. The estimate also assumes that the sale would be exempted from requirements of the Federal Property Administrative Services Act to first offer surplus property to state and local governments.

Proponents argue that selling DOE's unneeded properties would not only save money but also make the lands available for more uses, including agriculture, recreation, and residential or commercial development. They note that according to the IG, cleanup will be necessary at only a small part of the excess acreage. Moreover, the government would still have to pay cleanup costs if it kept or transferred the property rather than selling it.

Opponents of selling excess lands argue that DOE's missions are changing to include the stewardship of lands as valuable national resources. Most of the acreage in question was used as buffer lands and has been largely untouched in the past 50 years. Recognizing the lands' unique qualities, DOE has established environmental research parks at seven of its properties to protect species and cultural sites and to provide a natural laboratory for research and environmental monitoring. It has also made agreements with the Fish and Wildlife Service and the Bureau of Reclamation to manage certain areas. Moreover, some of the lands (excluding the acres at Oak Ridge to be sold under this option) may be contaminated by hazardous materials or unexploded ordnance, which would have to be disposed of before transfer could occur. (Such disposal would diminish the savings from this option.) In addition, DOE still needs buffer lands to

control the future spread of contaminants from its nuclear sites. □

Option 050-58
Invest in Technologies to Reduce the Cost of Operating Equipment

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	600	242
2003	600	431
2004	358	346
2005	-73	18
2006	-598	-444
2002-2006	887	592
2002-2011	-4,565	-4,565

RELATED CBO PUBLICATION:

Paying for Military Readiness and Upkeep: Trends in Operation and Maintenance Spending (Study), September 1997.

In some circumstances, agencies need to spend money to save money. This option would provide an additional $600 million a year to invest in technologies to reduce the operation and maintenance (O&M) costs of weapon systems. The funds would go into "technology insertion accounts" that would be held at the headquarters level of each service and be applied to equipment already used by military units in the field—for example, to support the research, development, procurement, and installation of reliable digital compasses in place of antiquated analog versions, or to replace universal joints on truck axles with constant-velocity joints, which reduce a fleet's tire wear by one-third.

Such investments can lessen the need to repair or replace failed components, freeing up maintenance workers and ultimately reducing the costs of operating equipment. Similar opportunities to save on O&M costs without sacrificing performance exist for all of the services' aging weapon systems. Over 10 years, the $6 billion investment in this option could produce $10.6 billion in savings—for net savings of $4.6 billion through 2011.

The services currently spend relatively little on technology insertion. Of the $38 billion in O&M and military personnel funding spent each year on maintaining weapon systems, only about $600 million is devoted to technology insertion to reduce costs. As an extreme example, the program manager for the M1A1 Abrams tank—the Army's second largest weapon system—received only $1.2 million for research and development (R&D) on ways to reduce the system's $2.9 billion annual operating costs. Studies conducted for DoD by the Logistics Management Institute and others have concluded that funding for technology insertion is inadequate.

There are three main reasons that the military's current funding for technology insertion programs is limited:

- The services focus their O&M spending on short-term needs rather than long-term investment. A March 1998 report by the Air Force Materiel Command stated, "The key barrier in today's increasingly tight budgetary environment is finding funding for an activity that will yield net benefits only in the future."

- Technology insertion initiatives typically need small quantities of funds from different appropriations—R&D, procurement, and O&M. But the services are prohibited (partly by law and partly by Department of Defense regulations) from using R&D or procurement dollars for components that reduce O&M costs. The dilemma is that officials who want to reduce O&M costs cannot tap into the correct pots of money—R&D or procurement—to do so.

- No incentives exist to encourage technology insertion. Maintenance depots do not have a vested interest in improving the reliability of equipment, because that would reduce their already dwindling workload. Officials who control R&D or procurement funds often focus on the costs not of systems already in the field but of the next emerging weapon system.

This option would promote technology insertion through a combination of new funds and new funding mechanisms. The newly created accounts would be "fenced," or earmarked only for technology insertion, and would contain a blend of R&D, procurement, and O&M funds. Within each service, program managers of weapon systems would compete for access to the funds on the basis of their ability to demonstrate potential gains from technology insertion. Thus, program managers could have the resources to change the O&M costs of their systems.

Establishing a separate pool of money for technology insertion would also create incentives within industry to vie for those dollars. If equipment manufacturers, subcontractors, and even depots knew that funding was available for R&D and procurement, they would have an incentive to devise and promote options for reducing O&M costs. Burden-sharing of R&D costs with private industry could increase because more dollars would be available for procuring the new technologies. (Industry officials have stated a willingness to assume the risks associated with research and development, but only if they can be assured of future procurement funding if the R&D is successful.)

The 10-year savings of $4.6 billion estimated for this option assume that each $1 invested in technology insertion yields a return of $3 over five years. The services report a range of returns on such investments, from 3-to-1 to as much as 20-to-1. But the dozens of separate O&M cost-reducing programs now in place suffer from inaccurate accounting of realized savings, so counting on high rates of return might be unrealistic. Many of those programs do not attempt to track the results of technology insertion. To help ensure a high rate of return under this option, project managers would provide account managers with detailed proposals that would include information about the past O&M costs of their systems, estimates of projected savings, and procedures to track and verify those savings.

Although potentially large, the savings under this option are uncertain. And as with any investment, there is a risk that DoD would not receive a good return on the investment. Service leaders claim they cannot absorb many more proposals for R&D or engineering changes without adding personnel to analyze and implement the proposals—thus adding to the cost of technology insertion and reducing the return. In addition, estimated savings might not materialize because reducing the labor force simply because of a labor-saving initiative is often difficult, both politically and practically. Finally, accurate data on costs and savings are not readily available, further clouding claims of gains made.

Each of the services is currently reforming its programs to account for the life-cycle costs of weapon systems, which could help better identify savings, but those efforts are not closely tied to technology insertion programs. Therefore, some observers argue that DoD should wait until the services can track costs better before offering additional funds to reduce costs. ☐

Option 050-59
Change the Management and Pricing of Repairs

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	-50	-38
2003	-167	-136
2004	-808	-644
2005	-447	-496
2006	-393	-413
2002-2006	-1,865	-1,726
2002-2011	-3,845	-3,723

When subcomponents of weapon systems (such as transmissions and radars) break down, unit commanders often have them repaired in the unit's own maintenance and repair shops—called intermediate maintenance facilities, or general support facilities in the Army. That is the case even if it would be less costly for the military as a whole if the subcomponents were sent to large, centralized maintenance facilities—called depots—for repair.

This option would reduce costs by changing the way in which the Department of Defense manages and charges for repair of those subcomponents—known as depot-level repairables (DLRs). Under this option, repair work for DLRs would be allocated to either depots or intermediate facilities by managers who were aware of the full costs of both sources of repair and had an incentive to minimize DoD's total repair bill. Such a system could save the department $3.7 billion in outlays over 10 years through improving inventory efficiency alone.

In the early 1990s, DoD tried to reduce the demand for repairs and make unit commanders more careful in their use of DLRs by shifting repair funds out of central accounts and into the budgets of individual units. To a large degree, the plan succeeded: demand for repair and replacements of DLRs declined. But because of problems in the price structure for repairs, shifting financial responsibility to unit commanders had unintended consequences. The prices that depots charge for DLRs overstate the actual cost of doing repairs because depots must cover their overhead and management costs. By contrast, some of the costs that intermediate facilities face (including the costs of capital and military labor) are not included in the prices that units pay. Thus, commanders have a financial incentive to repair DLRs in their own facilities regardless of the actual cost, and repair jobs that before would have gone to a depot are being handled by intermediate facilities. According to one joint Navy/Office of the Secretary of Defense study, intermediate maintenance is up to twice as expensive as depot repairs. Because intermediate facilities are not as well equipped for some tasks as depots, repairs could take longer or have higher failure rates. Besides raising costs, the shift in workload has increased excess capacity in the depots and may have decreased the quality of repairs overall. (The next option would consolidate some depots and close others.)

This option would try to improve the distribution of the DLR workload between depots and intermediate maintenance facilities by centralizing management of DLRs. More important, it would provide a pricing system that more accurately reflects the actual cost of repairs. Within each service, equipment (or item) managers would assume control of all DLR inventories and allocate repairs between depots and intermediate facilities. They, not unit commanders, would decide which source of repair was less costly. Commanders would have a single point of contact—the item manager—for each type of DLR, regardless of whether the work had been allocated to an intermediate facility or a depot.

Under this option, both depots and intermediate facilities would charge item managers for repairs. Each repair facility would set its prices to cover only those costs that varied with the DLR workload, taking into account the time to complete the work, quality, and return of broken DLRs. In other words, it would cover the additional costs that would be incurred for each specific repair, such as materials, labor, and transportation. Other fixed costs that did not vary with additional repairs would be funded through appropriations. That pricing structure has been proposed by economists at RAND, the Center for Naval Analyses, and elsewhere. By encouraging item managers to send DLRs to the facility that could do the work at the lowest cost, that structure would let DoD minimize its total repair bill.

One disadvantage of this option is that commanders would have less control over their intermediate maintenance facilities. Thus, it would be harder for them to ensure that those facilities provided an adequate minimum number of personnel to cover wartime tasks or to support deployments and contingency operations. In addition, centralization and worldwide management of the DLR inventory would require new software and computer systems.

Another disadvantage is that developing appropriate prices for the depots and intermediate facilities could prove difficult. Depot managers, eager to attract work by keeping their prices as low as possible, might try to move costs into the category of fixed costs that were in fact part of the costs of repair that varied with workload. Alternatively, depot managers might be reluctant to separate repair costs that varied with workload from those that were fixed because doing so would highlight their degree of excess capacity. In addition, an accurate historical database of repair costs at intermediate facilities does not exist, which makes pricing DLR repairs there difficult.

A more fundamental concern is that it might be difficult to predict exactly how managers would re-

spond to the new prices. (DoD, for example, failed to predict how managers would respond to the current DLR pricing scheme.) The unintended consequences of changing prices could outweigh the benefits if this option was not implemented carefully and systematically. Opponents of this option might argue that it would be simpler for DoD to just order work to go to the facility that could perform it at the least cost. Supporters might counter that DoD already has rules about where DLRs are to be repaired but that current DLR prices are driving units to ignore those rules. □

Option 050-60
Consolidate Depot Functions and Close Some Facilities

	Costs or Savings (-) (Millions of dollars)	
	Budget Authority	Outlays
2002	0	0
2003	146	45
2004	139	48
2005	-46	-26
2006	-181	-140
2002-2006	59	-73
2002-2011	-1,833	-1,673

RELATED CBO PUBLICATION:

Public and Private Roles in Maintaining Military Equipment at the Depot Level (Study), July 1995.

Despite four rounds of base realignment and closure (BRAC), the services still have a large number of underutilized buildings and equipment within their network of maintenance depots. The individual services, the Office of the Secretary of Defense, and the General Accounting Office (GAO) have all recommended closing additional depot facilities to reduce that excess capacity, which GAO has estimated at about 50 percent and rising.

This option would authorize a BRAC commission that would focus exclusively on maintenance depots. Assuming the commission identified up to five facilities for closure, this option could save a total of $1.7 billion in outlays between 2002 and 2011. Closing additional depots would require some up-front investment, but the Department of Defense would probably break even within five to six years.

When the actions recommended by the four previous BRAC rounds are completed, 19 of the 38 major government-owned and -operated depots that existed in 1988 will no longer be functioning as government entities. Nevertheless, the depot network will still have excess capacity because its workload is declining for four reasons: the overall military force structure and stocks of weapons and equipment continue to be reduced, most new or modified weapon systems are more reliable than previous systems, manufacturers of weapon systems are seeking greater control over maintenance support for their systems, and some unit commanders are conducting more repairs in their own local maintenance facilities (see the previous option).

Proponents of a BRAC commission specifically for maintenance depots would argue that the unique characteristics of depots—including nondeployable personnel, huge fixed capital assets, and a mostly civilian workforce—set them apart from conventional military bases. In that view, the special expertise required to understand depot-industry issues—to determine to what extent repairs could be made more efficiently in the private sector and to define and identify excess capacity from an overall DoD perspective—underscores the need for a specialized BRAC panel whose members have knowledge of the unique attributes of the depot system. (That argument could also apply to the defense laboratories, research facilities, and test and evaluation facilities.)

Opponents of this option, by contrast, might argue that depot realignments and closures have gone far enough. Many critics feel that DoD should retain enough capacity within its depot system to accommodate new risks to national security that could require a surge in depot-level maintenance. In addition, depot closures could have adverse economic effects on local communities—at least in the short run.

Instead of closing more depots, critics would argue, DoD could reduce excess capacity by entering into public/private partnerships that utilized that capacity during peacetime and thus made depots more cost-effective. For example, the commercial aviation industry reportedly faces a shortfall in its depot capacity and could potentially become a partner in sharing the costs of maintaining military depots. □

Chapter Five

Options to Cut Nondefense Spending

150

International Affairs

Budget function 150 covers all spending on international programs by various departments and agencies. The category includes spending by the Department of State to conduct foreign policy and exchange programs, funds controlled directly by the President to give other nations economic and military aid, and U.S. contributions to international organizations such as the United Nations, multilateral development banks, and the International Monetary Fund. Function 150 also includes financing for exports through the Export-Import Bank. CBO estimates that discretionary outlays for the function will total $22.7 billion in 2001 after hovering around the $20 billion level throughout the 1990s. Repayments of loans and interest income in the Exchange Stabilization Fund account for the negative balances in mandatory spending for this function.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)[a]	20.0	21.3	20.9	21.2	20.9	20.2	18.1	18.2	19.0	23.3	23.5	22.6
Outlays												
Discretionary	19.1	19.7	19.2	21.6	20.8	20.1	18.3	19.0	18.1	19.5	21.3	22.7
Mandatory	-5.2	-3.8	-3.1	-4.3	-3.7	-3.7	-4.8	-3.8	-5.0	-4.3	-4.1	-3.6
Total	13.9	15.9	16.1	17.2	17.1	16.4	13.5	15.2	13.1	15.2	17.2	19.1
Memorandum:												
Annual Percentage Change in Discretionary Outlays		3.4	-2.7	12.6	-3.5	-3.3	-8.8	3.5	-4.6	7.8	9.0	6.6

a. Discretionary budget authority excludes appropriations of $12.1 billion in 1993 and $18.2 billion in 1999 for the International Monetary Fund. Those appropriations do not affect discretionary outlays.

150-01 Eliminate Overseas Broadcasting by the U.S. Government

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	290	363
2003	303	342
2004	361	355
2005	436	377
2006	451	412
2002-2006	1,841	1,849
2002-2011	4,096	4,084
Relative to Inflated Appropriations		
2002	306	378
2003	334	370
2004	405	393
2005	495	433
2006	525	484
2002-2006	2,065	2,058
2002-2011	4,923	4,877

SPENDING CATEGORY:

Discretionary

Several entities provide U.S. overseas broadcasting. Radio Free Asia (RFA), Radio Free Europe (RFE), and Radio Liberty (RL) broadcast country-specific news to Asia, Eastern Europe, and the former Soviet Union, respectively. The Voice of America (VOA) oversees radio broadcasts that provide news and U.S.-related information to audiences worldwide. The International Broadcasting Bureau oversees television broadcasting services similar to VOA's radio broadcasts and also manages a broadcasting service to Cuba. Appropriations for VOA, RFA, RFE/RL, and television and film services are consolidated into a single account. Funding for radio and television broadcasting to Cuba and for construction of broadcast facilities is provided in separate appropriations.

This option would eliminate VOA, RFA, and RFE/RL and end broadcasting services to Cuba, all overseas construction of broadcast facilities, and U.S. overseas television broadcasting. Compared with the funding level in 2001, those cuts would save $4.1 billion over 10 years. Compared with the 2001 funding level adjusted for inflation, savings would total $4.9 billion over 10 years. (Those savings are net of the near-term costs of termination, such as severance pay for employees.)

Proponents of ending overseas broadcasting by the U.S. government say that RFE/RL and VOA are Cold War relics that are no longer necessary. RFE and RL continue to broadcast to former Communist countries in Europe even though those countries now have ready access to world news. With the advent of satellite television broadcasting, most nations can receive news about the United States and the world from private broadcasters, such as the Cable News Network (CNN). Some proponents of termination also argue that the primary technology used by VOA, RFA, and RFE/RL—shortwave radio—limits the audiences and thus the effectiveness of U.S. overseas broadcasting. In addition, proponents maintain that foreigners may distrust the accuracy of broadcasts sponsored by the U.S. government.

Critics of this option would argue that the current level of broadcasting should continue or even increase. The process of change in Eastern Europe and the former Soviet Union needs nurturing, they say, and U.S. broadcasting can help in that process. In addition, many countries in other parts of the world remain closed to outside information. Supporters of VOA, RFA, and RFE/RL argue that shortwave radio is the best way to reach audiences in closed countries because very few people there own satellite dishes, which are needed to receive television broadcasts such as those of CNN. Moreover, they note, VOA and RFE/RL are broadcasting more programs over AM and FM frequencies. Supporters of U.S. government broadcasting also argue that it should be sharply increased to some countries, such as China and North Korea. Further, they maintain that television is a powerful communications tool and that private television networks cannot adequately communicate U.S. policy and viewpoints.

150-02 Eliminate the Export-Import Bank, Overseas Private Investment Corporation, and Trade and Development Agency

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	937	210
2003	950	586
2004	956	737
2005	963	838
2006	957	874
2002-2006	4,763	3,245
2002-2011	9,486	7,701
Relative to Inflated Appropriations		
2002	958	215
2003	991	605
2004	1,018	773
2005	1,049	894
2006	1,064	949
2002-2006	5,080	3,434
2002-2011	10,670	8,575

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

350-02, 350-08, 350-06, 350-08, 350-09, and 370-02

RELATED CBO PUBLICATIONS:

The Domestic Costs of Sanctions on Foreign Commerce (Study), March 1999.

The Role of Foreign Aid in Development (Study), May 1997.

The Export-Import Bank (Eximbank), the Overseas Private Investment Corporation (OPIC), and the Trade and Development Agency (TDA) promote U.S. exports and overseas investment by providing a range of services to U.S. companies wishing to do business abroad. Eximbank offers subsidized direct loans, guarantees of private lending, and export credit insurance; OPIC provides investment financing and insurance against political risks; and TDA funds feasibility studies, orientation visits, training grants, and other forms of technical assistance. Appropriations in 2001 for Eximbank, OPIC, and TDA are $927 million, $62 million, and $50 million, respectively.

This option would eliminate TDA and the subsidy appropriations for Eximbank and OPIC. The latter two agencies could not conduct any new financing or issue new insurance but would continue to service their existing portfolios. Those changes would save $210 million in outlays in 2002 and $7.7 billion over 10 years compared with the current funding level. Compared with that funding level adjusted for inflation, savings would total $8.6 billion over 10 years.

Supporters of promoting exports argue that the three agencies play an important role in helping U.S. businesses, especially small businesses, understand and penetrate overseas markets. Those agencies level the playing field for U.S. exporters by offsetting the subsidies that foreign governments provide to their exporters, thereby creating U.S. jobs and promoting sales of U.S. goods. By encouraging U.S. investment in areas such as Russia and the states of the former Soviet Union, those agencies may also serve a foreign policy objective.

Critics dispute the contribution that those agencies make to the economy. The value of exports supported by the agencies' programs is small—less than 2 percent of total U.S. exports. Moreover, many economists disagree with the claim that promoting exports creates U.S. jobs. They assert that by subsidizing exports, the government distorts business decisions that are best left to occur in free markets. OPIC and Eximbank finance programs that have trouble raising funds on their own merit. Similarly, those agencies' insurance programs may encourage companies to invest in riskier projects than they would if more of their own funds were at stake. Finally, critics argue, those agencies encourage highly risky projects in vulnerable areas. Although emerging economies such as Russia's and Indonesia's may be important markets for U.S. exports, they can also be dangerous: firms operating there may face considerable political, currency, and business risks.

150-03-A Reduce Aid to Israel and Egypt

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	340	303
2003	500	438
2004	660	583
2005	820	734
2006	980	889
2002-2006	3,300	2,947
2002-2011	9,640	8,971
Relative to Inflated Appropriations		
2002	417	366
2003	647	563
2004	878	774
2005	1,108	992
2006	1,343	1,219
2002-2006	4,393	3,914
2002-2011	13,675	12,698

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

150-03-B and 350-08

RELATED CBO PUBLICATIONS:

The Role of Foreign Aid in Development (Study), May 1997.

Enhancing U.S. Security Through Foreign Aid (Study), April 1994.

Limiting Conventional Arms Exports to the Middle East (Study), September 1992.

As part of the 1979 Camp David peace accords, the United States agreed to provide substantial amounts of aid to Israel and Egypt to promote economic, political, and military security. That aid, which is paid through the Economic Support Fund (ESF) and the Foreign Military Financing (FMF) program, for years totaled $5.1 billion for the two countries. Of that total, Israel received $3 billion ($1.2 billion in ESF payments and $1.8 billion from the FMF program), and Egypt received $2.1 billion ($815 million from the ESF and $1.3 billion from the FMF program).

In January 1998, Israel proposed phasing out its $1.2 billion a year in ESF payments while increasing its FMF assistance by $600 million a year. The conference report for the 1999 Foreign Operations Appropriations Act endorsed that proposal with a 10-year phase-in. As a result, it cut ESF aid to Israel by $120 million and increased FMF aid by $60 million. The conference report also reduced economic assistance to Egypt from $815 million in 1998 to $775 million in 1999—and proposed cutting it to $415 million by 2008—while keeping military aid constant.

Since 1999, however, those proposed funding levels have not been followed. Although economic aid has been reduced, FMF assistance to Israel has increased sharply, with extraordinary funding of $1.2 billion provided in 2000 for implementing the Wye peace accords and an additional $450 million requested for 2001. Egypt's FMF aid has also grown, though by smaller amounts.

This option would forgo the proposed increase in military funding for Israel, maintaining that aid at its 1998 level. The option would also continue to cut economic assistance to both Israel and Egypt each year through 2008. The reductions in aid to Isreal would save $300 million in 2002 and a total of almost $7.7 billion over 10 years compared with this year's funding level. Adding in the cuts to Egyptian aid would bring total savings in outlays to $303 million in 2002 and $9.0 billion over 10 years compared with current funding. Compared with that funding level adjusted for inflation, savings over 10 years would be $10.9 billion from reducing aid to Israel and $12.7 billion from cutting aid to both countries.

The 1999 foreign operations conference report asserted that increased aid to Israel was necessary, saying "the [country's] security situation, particularly with respect to weapons of mass destruction, has worsened." But despite reports of weapons technology being transferred to Iran, critics could argue that some aspects of Israel's security situation have improved. Iraq's arsenal of weapons of mass destruction has been reduced, though not eliminated, by U.N. inspections, and Israel has concluded a peace treaty with Jordan. In addition to those developments, Israel's per capita income (in excess of $18,000) approaches that of the United States' European allies, who have long been prodded by the Congress to assume greater responsibility for their own defense.

As for Egypt, some analysts say U.S. assistance to that country is not being spent wisely or efficiently. Critics note that high levels of appropriations have exceeded Egypt's ability to spend the funds, leading to the accumulation of large undisbursed balances, inefficient use of aid, and delays in making the reforms needed to foster self-sustaining growth. Furthermore, many other countries and organizations contribute substantial amounts of money to Egypt, which could make reducing U.S. assistance more feasible.

150-03-B Redirect Aid from High-Income Countries to Poverty-Reduction Programs in Poor Countries

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	440	812
2003	440	688
2004	440	588
2005	440	528
2006	440	496
2002-2006	2,200	3,112
2002-2011	4,400	5,410
Relative to Inflated Appropriations		
2002	450	830
2003	458	719
2004	467	631
2005	476	581
2006	485	560
2002-2006	2,337	3,322
2002-2011	4,905	6,092

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

150-03-A and 350-08

RELATED CBO PUBLICATIONS:

The Role of Foreign Aid in Development (Study), May 1997.

Enhancing U.S. Security Through Foreign Aid (Study), April 1994.

World leaders have called for a renewed effort to raise living standards in the world's poorest countries by 2015. But the United States gives a large share of its economic assistance to countries with relatively high per capita income—in particular, Israel, Northern Ireland, and Cyprus—to encourage the peaceful resolution of conflicts there. In 2001, the Congress earmarked $880 million, or 8 percent of its appropriations for economic aid, for those three countries.

This option would eliminate U.S. economic assistance to Israel, Northern Ireland, and Cyprus and redirect half of the savings to increasing aid to poor countries. That change would save $812 million in outlays in 2002 and $5.4 billion over 10 years relative to current funding. Compared with the current funding level adjusted for inflation, savings would total $6.1 billion over 10 years.

Advocates of this option would argue that economic assistance to those three countries has done little to promote peace. To the contrary, they might say, such aid subsidizes the cost of maintaining the status quo. The United States has provided assistance to those nations for decades regardless of their progress toward peaceful resolution of their conflicts; although the prospects for peace have waxed and waned, nominal levels of aid have barely changed. Critics of such aid maintain that it is often taken for granted and fails to influence behavior in the recipient countries in a way that furthers U.S. interests.

Furthermore, proponents of this option might argue that such U.S. assistance could be used more effectively to encourage economic growth in low-income countries, thus aligning U.S. aid policy with multilateral efforts. Analysts have concluded that aid has a positive effect on growth in countries whose governments are committed to sound fiscal policies, open trade, the rule of law, and regulations that do not impose undue burdens on commerce. During the past decade, many poor countries have implemented such policies, thereby providing opportunities for the effective use of aid. This option would free resources for additional assistance to countries that offer an environment conducive to economic growth and poverty reduction.

Opponents of cutting aid to high-income countries point out that such aid is tied to U.S. foreign policy interests—peace in the Middle East, Northern Ireland, and Cyprus. Any reduction of aid could be construed as a diminution of U.S. commitment to those regions. In the view of such opponents, focusing foreign aid exclusively on poverty reduction would make it difficult to conduct diplomacy and thus would ultimately make the world more dangerous. Moreover, they could argue that this option would be self-defeating. Israel, Ireland, and (to a lesser extent) Cyprus have strong constituencies in the United States, so cutting aid to those countries could weaken support for foreign aid programs in general—and therefore might not increase U.S. assistance to poorer countries.

150-04 Eliminate Contributions to the HIPC Debt-Relief Fund

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	360	90
2003	360	216
2004	360	342
2005	360	360
2006	360	360
2002-2006	1,800	1,368
2002-2011	3,600	3,168
Relative to Inflated Appropriations		
2002	368	92
2003	375	223
2004	382	356
2005	390	381
2006	397	388
2002-2006	1,912	1,439
2002-2011	4,013	3,494

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

350-08

RELATED CBO PUBLICATION:

The Role of Foreign Aid in Development (Study), May 1997.

In 1996, the International Monetary Fund (IMF) and the World Bank created the Heavily Indebted Poor Countries (HIPC) Trust Fund to reduce the debt burden on 42 of the world's poorest countries. Creditor nations pay into the fund, which reimburses multilateral development banks for the cost of forgiving some of the debt owed by the poorest countries. Those countries collectively owe more than $200 billion to various creditors: 30 percent to multilateral development banks and the IMF, 60 percent to other governments, and the balance to commercial creditors. The United States pledged in 1999 to contribute $600 million to the fund.

This option would forgo further U.S. contributions to the HIPC trust fund and thus force the multilateral development banks to bear the full cost of debt relief. Doing that would save $90 million in outlays in 2002 and an estimated $3.2 billion though 2011 compared with current appropriations. Compared with the current level of appropriations adjusted for inflation, savings would total $3.5 billion through 2011.

Supporters of this option would argue that the HIPC trust fund does not address the underlying problem responsible for the debt burden of poor countries: those countries borrowed large sums in the past and failed to invest them productively. Development analysts conclude that the most important factors for economic growth and poverty reduction in the developing world are the economic policies of national governments. Countries whose governments are committed to the rule of law, open trade, and regulations that do not impose undue burdens on commerce are able to attract capital and tend to experience economic growth and a reduction in poverty. Badly governed countries, however, tend to stagnate, and debt relief may even reduce their ability to attract private capital, leaving them dependent on international assistance.

Even if the countries in question have growth-oriented economic policies, the fund may do little to reduce their debt-service burden. Much of the HIPC funding is being used to pay debts that are not being serviced; for those countries, the HIPC funds are really a transfer from the contributing creditor nations to multilateral banks. Thus, they reimburse those banks for the consequences of their poor lending practices.

Opponents of this option would argue that the trust fund will elevate social spending and living standards in some of the most poverty-stricken parts of the world. Many of the recipient countries spend more on servicing their debt than on education and health care combined. If funds now used for debt service were redirected toward social programs, those countries could reduce the most extreme manifestations of poverty among their people.

In addition, opponents of cutting off U.S. contributions to the fund would argue that holding many current governments responsible for their nation's debt may be unfair. In some cases, the debt was incurred by prior regimes, which may have squandered borrowed funds on luxury goods or wasted them through corrupt practices. Countries struggling to emerge from such a legacy have a double burden of constructing democratic institutions while paying for the greed or incompetence of previous regimes.

250

General Science, Space, and Technology

Budget function 250 includes funding for the National Science Foundation, more than 90 percent of the spending of the National Aeronautics and Space Administration, and funding for general science research by the Department of Energy. In 2001, CBO estimates, total outlays for function 250 will be about $19.6 billion, continuing the trend of increasing spending for the function.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	14.5	16.5	17.3	17.2	17.6	16.7	16.7	16.6	18.0	18.8	19.2	20.9
Outlays												
Discretionary	14.4	16.1	16.4	17.0	16.2	16.7	16.7	17.1	18.2	18.1	18.6	19.5
Mandatory	0	0	0	0	0	0	0	0	0	0	0	0.1
Total	14.4	16.1	16.4	17.0	16.2	16.7	16.7	17.2	18.2	18.1	18.6	19.6
Memorandum:												
Annual Percentage Change in Discretionary Outlays		11.6	1.8	3.9	-4.9	3.2	-0.1	2.8	6.0	-0.5	2.9	5.0

250-01 Cancel the International Space Station Program

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	1,118	749
2003	2,118	1,765
2004	2,118	2,086
2005	2,118	2,108
2006	2,118	2,118
2002-2006	9,590	8,826
2002-2011	20,180	19,416
Relative to Inflated Appropriations		
2002	1,142	765
2003	2,206	1,832
2004	2,249	2,202
2005	2,291	2,254
2006	2,336	2,298
2002-2006	10,224	9,351
2002-2011	22,584	21,512

SPENDING CATEGORY:

Discretionary

RELATED CBO PUBLICATION:

Reinventing NASA (Study), March 1994.

Canceling the international space station would save, over the 2002-2011 period, $19.4 billion relative to the 2001 level of appropriations and $21.5 billion relative to those appropriations adjusted for inflation. On November 2, 2000, the first crew arrived at the space station to begin a four-month mission. Under current plans, over 40 additional launches will be undertaken before the space station is completed in 2006. By that time, more than $25 billion will have been spent to develop, build, and assemble the space station. The General Accounting Office (GAO) estimates that the life-cycle cost of the entire project, including operation, maintenance, and transportation to and from orbit, will be over $95 billion. The Congress's yearly decision about whether to continue funding for the program hinges on whether the program's future benefits are sufficient to justify spending an additional $70 billion through 2016.

People who would cancel the international space station program assert that its benefits are unlikely to justify additional spending and that costs are likely to increase above those estimated by GAO. To support their position, critics cite the general lack of enthusiasm for the space station among individual scientists and scientific societies. The program's opponents also note that the costs of the program have continually increased, although its capabilities and scope have decreased. Critics point as well to the uncertainty surrounding the costs of operating and supporting the facility once it has been developed and launched. They are skeptical of the National Aeronautics and Space Administration's assurance that the station's operating costs will be low, noting that the agency made similar claims about the space shuttle that proved overly optimistic.

Advocates of continued spending for the space station reject critics' claim that the program's benefits do not justify its costs. Supporters place a high value on the role of the station as a stepping-stone to future human exploration of the solar system. They also contend that the program will deliver scientific advances and perhaps even commercial benefits. Supporters further argue that Russia's participation has strengthened the foreign policy reason for continuing the program. They assert that drawing Russia, and particularly its aerospace industry, into a cooperative venture will help to stabilize the Russian economy and provide incentives for Russia to adhere to international agreements on the spread of missile technology. Advocates also point out that the project's cancellation would force the United States to renege on agreements signed with European nations, Japan, and Canada, as well as Russia—possibly hurting the prospects for future international cooperative agreements on space, science, and other areas of mutual interest.

250-02 Eliminate the Experimental Program to Stimulate Competitive Research

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	182	50
2003	228	150
2004	228	202
2005	228	217
2006	228	222
2002-2006	1,094	841
2002-2011	2,234	1,956
Relative to Inflated Appropriations		
2002	186	51
2003	238	155
2004	242	211
2005	247	230
2006	252	241
2002-2006	1,165	888
2002-2011	2,495	2,166

SPENDING CATEGORY:

Discretionary

The Experimental Program to Stimulate Competitive Research (EPSCoR), a partnership between states and several research-oriented federal agencies, was designed to encourage states to invest more in science and technology and to better distribute federal research and development (R&D) funding. Currently, federal agencies receive about $228 million in appropriations for EPSCoR. Eliminating the program would save, over the 2002-2011 period, $2.0 billion relative to the 2001 funding level and $2.2 billion relative to that level adjusted for inflation.

Twenty-one states and the Commonwealth of Puerto Rico currently take part in EPSCoR. Between 1980 and 2001, the National Science Foundation alone provided almost $450 million to more than 60 colleges, universities, and laboratories in states that had not received significant federal R&D funding in the past. State governments, local industry, and other nonfederal sources provided matching funds to those institutions. The entire effort has supported 2,000 scientists and engineers.

Opponents of EPSCoR contend that the nation must make optimal use of its limited research dollars and therefore should support researchers whose proposals are judged superior through a process of peer review, without regard to geographic distribution. Furthermore, critics doubt whether novice research institutions can provide a top-quality effort, which requires substantial ongoing investments by the states and regional institutions.

Critics also argue that EPSCoR was intended to be an experimental program, not a permanent source of R&D support for institutions in selected states. They note that after many years of support, the program's recipients, which represent more than a third of all states, continue to attract only about 8 percent of the federal funding for academic R&D. Opponents point to the corresponding lack of improvement in state shares of such funding: states that began participating in EPSCOR in the 1980s in the bottom half of the national rankings for scientific research were still in the bottom half in 1998.

Advocates maintain that EPSCoR promotes a more equitable geographic distribution of the nation's science and technology base. They assert that state policymakers invest more in R&D than they would without EPSCoR's incentives and that those investments give students in those states the research experience and training necessary for careers in scientific fields. Proponents also contend that the program fosters technology-related industries in the states by involving local firms in selecting research topics. Supporters note that 15 of the EPSCoR states experienced above-average growth in federal funding for academic R&D over the 1990-1998 period. They claim that the EPSCoR states have improved their rankings in their chosen "niche" fields, even if such changes are not apparent in the overall statistics. Finally, they argue that the quality of EPSCoR-funded research is equivalent to other federally funded R&D because awards are based on merit reviews.

270

Energy

Budget function 270 includes funding for the nondefense programs of the Department of Energy as well as for the Tennessee Valley Authority, rural electrification loans, and the Nuclear Regulatory Commission. The programs supported by this function are intended to increase the supply of energy, encourage energy conservation, provide an emergency supply of energy, and regulate energy production. CBO estimates that discretionary outlays for function 270 will be $3.1 billion in 2001. That amount continues a recent trend of lower funding levels for federal energy programs. Negative balances in mandatory spending for the function result from repayment of loans, receipts from the sale of electricity produced by federal entities, and charges for the disposal of nuclear waste.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	5.6	5.4	5.8	5.8	6.4	6.2	4.9	4.2	3.1	2.9	2.7	3.1
Outlays												
Discretionary	4.8	4.4	5.4	5.6	6.4	6.8	6.0	4.9	3.7	3.1	3.0	3.1
Mandatory	-1.4	-2.0	-0.9	-1.2	-1.2	-1.8	-3.1	-3.4	-2.4	-2.2	-4.0	-3.2
Total	3.3	2.4	4.5	4.3	5.2	4.9	2.8	1.5	1.3	0.9	-1.1	-0.1
Memorandum:												
Annual Percentage Change in Discretionary Outlays		-7.4	22.4	3.0	15.1	5.7	-11.9	-17.7	-24.4	-15.7	-5.4	4.7

270-01 Eliminate the Department of Energy's Applied Research for Fossil Fuels

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	452	143
2003	541	366
2004	541	484
2005	541	522
2006	541	536
2002-2006	2,616	2,051
2002-2011	5,321	4,756
Relative to Inflated Appropriations		
2002	463	147
2003	567	380
2004	580	509
2005	592	559
2006	605	586
2002-2006	2,807	2,182
2002-2011	6,033	5,337

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-02, 270-03, 270-04, 350-01, 350-04, REV-38, and REV-55

The Department of Energy (DOE) currently receives over $500 million in appropriations annually to improve the applied technologies for finding and using fossil fuels (petroleum, coal, and natural gas), including a $95 million grant program in 2001 for demonstration projects. Those programs were put into place when the prices of fossil fuels were controlled and, as a result, incentives for technology development were muted. In a world of partial deregulation and increasingly free energy markets, the value of federal spending for such research and development (R&D) programs is questionable. Eliminating both the research and the demonstration projects would save, over the 2002-2011 period, $4.8 billion relative to the 2001 funding level and $5.3 billion relative to that level adjusted for inflation.

Critics of the programs contend that deregulating prices in energy markets provides suppliers with sufficient incentives to develop better technologies and bring them to market. They argue that private entities are more attuned to which new technologies have commercial promise than are federal officials. Federal programs have had a long history of funding fossil-fuel technologies that, although interesting technically, had little chance of commercial feasibility, even after years of federal investment. As a result, much of the federal spending has been irrelevant to solving the nation's energy problems.

Critics of the programs also argue that DOE should concentrate on basic energy research and reduce the department's involvement in applied technology development. They contend that the federal government has a comparative advantage in developing the basic science for a new energy source but a comparative disadvantage in developing and demonstrating costly technologies.

Defenders of the applied research programs point to the continued development of fuel cell technology in these programs. Fuel cells, which have come down in cost, are just a few years away from displacing more conventional energy sources in a wide variety of markets: from cell phone batteries to household electrical use.

Defenders also argue that the programs help offset several existing failures in energy markets and therefore represent a sound investment for the nation. They say, for example, that current energy prices do not reflect the environmental damage done by the production and use of fossil fuels. Research that allows oil and gas to be extracted with less damage to the environment decreases the cost to society. In addition, current energy prices do not reflect the military and economic risks posed by reliance on oil from the Middle East. Those research programs could increase the efficiency of energy use and thereby reduce dependence on foreign oil. Although DOE's R&D programs cannot correct market failures in the short term, they may moderate the consequences of such failures over the long term.

270-02 Eliminate the Department of Energy's Applied Research for Energy Conservation

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	501	125
2003	626	432
2004	626	576
2005	626	620
2006	626	626
2002-2006	3,005	2,379
2002-2011	6,135	5,509
Relative to Inflated Appropriations		
2002	513	128
2003	654	446
2004	668	604
2005	681	661
2006	695	681
2002-2006	3,212	2,520
2002-2011	6,906	6,143

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-01, 270-03, 270-04, 270-08, 300-15, 350-04, and REV-55

RELATED CBO PUBLICATIONS:

Should the Federal Government Sell Electricity? (Study), November 1997.

Electric Utilities: Deregulation and Stranded Costs (Paper), October 1998.

In 2001, the Department of Energy (DOE) received appropriations of $626 million for programs to develop energy conservation technologies. Those efforts include the Partnership for a New Generation of Vehicles (discussed in option 270-08) for automobile research as well as industrial and residential energy-efficiency research. Federal agencies' involvement in the selection and development of near-commercial technologies raises questions about the appropriateness of the current division of labor between the public and private sectors. Eliminating these programs would save, over the 2002-2011 period, $5.5 billion relative to the 2001 funding level and $6.1 billion relative to that level adjusted for inflation.

Opponents of federal spending for energy conservation research and development (R&D) make several arguments. Generally, they argue that the federal government should stay out of the development of applied energy technology and concentrate on basic research in the underlying science. Specifically, they note that many projects funded through this research effort are small and discrete enough—and, in many cases, have a clear enough market—to warrant private investment. In such instances, DOE may be crowding out or preempting private-sector firms. In other instances, such programs conduct R&D that the intended recipients are likely to ignore—often because it is too expensive or esoteric to implement.

Critics of the programs also note that other federal policies encourage the introduction of some of the technologies. Utilities, for instance, are encouraged to subsidize consumers' purchases of conservation technologies by underwriting the purchase of efficient home appliances. In addition, the tax code favors investments in conservation technologies. Thus, federal R&D programs may duplicate other support.

Defenders of the programs argue that federal R&D in energy conservation helps offset several existing failures in energy markets. Current energy prices, they argue, do not reflect the damage to the environment from excessively relying on fossil fuels, including the potential for global warming. In addition, current energy prices do not reflect the military and economic risks posed by relying on oil from the Middle East. Energy conservation will decrease the social costs of producing and using energy and the dependence on foreign oil.

Furthermore, private R&D spending on energy conservation is small, most notably on energy efficiency for buildings, opening up a role for federal investment. Defenders of DOE's programs encourage cost sharing in some industrial grants, which raises the rate of private R&D in the field.

(Because energy conservation R&D and the Partnership for a New Generation of Vehicles overlap, the savings from eliminating both programs would be less than the sum of the figures for the two options. In addition to its own energy conservation programs, DOE separately provides grants to state and local agencies for energy conservation. Those grants are discussed in option 270-04.)

270-03 Eliminate the Department of Energy's Applied Research for Solar and Renewable Energy Sources

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	298	75
2003	373	257
2004	373	343
2005	373	369
2006	373	373
2002-2006	1,790	1,417
2002-2011	3,655	3,282
Relative to Inflated Appropriations		
2002	306	76
2003	390	266
2004	398	360
2005	406	394
2006	414	406
2002-2006	1,914	1,502
2002-2011	4,103	3,647

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-01, 270-02, 270-04, 270-08, 350-01, 350-04, REV-38, and REV-55

In 2001, the Department of Energy (DOE) received appropriations of $373 million to spend on research and development (R&D) for solar and other renewable energy sources. The largest technology development efforts by far are those for developing alternative liquid fuels from biomass and electricity from photovoltaic cells. Smaller efforts involve electric energy storage and wind energy systems. Eliminating this research would save, over the 2002-2011 period, $3.3 billion relative to the 2001 funding level and $3.6 billion relative to that level adjusted for inflation.

Opponents of federal support for such research argue that the federal government should stay out of the development of applied energy technology and concentrate on basic research in the underlying science. Federally sponsored researchers lack the complex market feedback that helps researchers in private companies realize when their technologies become too esoteric or expensive for the market.

Another criticism shared by DOE's conservation R&D programs (discussed in option 270-02) is that many of the research projects funded by the renewable energy program are sufficiently small and discrete and have a clear enough market to attract private funding. (Of course, many of the alternative energies developed were simply not economical during the period when oil prices were low.)

Several renewable energy technologies—most notably wind power and photovoltaic cells—are now at the heart of commercial markets. Wind energy, for instance, currently constitutes a $4 billion market and is growing by 25 percent per year. Similarly, the photovoltaic market is growing at between 15 percent and 20 percent per year, and U.S. firms are maintaining their technological leadership. In such cases, it may be time for an orderly withdrawal of federal support. Given the large U.S. venture capital market, continued federal support may be displacing private funding.

Finally, critics explain that for liquid fuels derived from renewable resources, especially biomass, the federal tax code already provides incentives for developing the technology. Ethanol fuels receive special treatment under the federal highway tax (see option REV-38). Furthermore, federal regulations authorized by many different statutes favor alcohol fuels, which now usually mean those that are corn-based.

Advocates believe DOE's programs have been a technical success and represent a hedge against increases in energy prices. One recent analysis showed that many of the technologies had indeed met their goals to lower costs, although they were not used because costs for conventional energy sources had fallen by even more. Should energy prices rise further, however, these new energy sources could gradually come into wider use.

Defenders of the programs also argue that the energy prices consumers pay fail to incorporate both the environmental and national security risks posed by the nation's dependence on fossil fuels. Furthermore, the United States plays the role of international R&D laboratory for less developed countries, which often have much higher energy costs.

270-04 Eliminate Energy Conservation Grant Programs

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	153	38
2003	191	132
2004	191	176
2005	191	189
2006	191	191
2002-2006	917	726
2002-2011	1,872	1,681
Relative to Inflated Appropriations		
2002	156	39
2003	200	136
2004	204	184
2005	208	202
2006	212	208
2002-2006	980	769
2002-2011	2,101	1,868

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-01, 270-02, 270-03, and 300-15

RELATED CBO PUBLICATIONS:

Should the Federal Government Sell Electricity? (Study), November 1997.

Electric Utilities: Deregulation and Stranded Costs (Paper), October 1998.

Weatherization assistance grants supported by the Department of Energy's (DOE's) Office of State and Community Programs help low-income households reduce their energy bills by funding such activities as installing weather stripping, storm windows, and insulation. Institutional conservation grants supported by the office help reduce the use of energy in educational and health care facilities by adding federal funds to private and local public spending to encourage local investment in improvements to buildings. The Office of State and Community Programs also supports the energy conservation programs of states and municipal governments that, for example, establish energy-efficiency standards for buildings and promote public transportation and carpooling.

This option would halt new appropriations for DOE's grant programs that support energy conservation activities by the states. Implementing this option would save, over the 2002-2011 period, $1.7 billion relative to current appropriations and $1.9 billion relative to current appropriations adjusted for inflation.

Critics of those programs question whether they actually work and whether the conservation actions they call for are not already promoted by other programs or laws, such as the Clean Air Act Amendments of 1990. The DOE programs are independent of a similar block-grant activity, the Low Income Home Energy Assistance Program, administered by the Department of Health and Human Services. Moreover, federal support for reducing the use of gas and coal through conservation grants for security or environmental needs conflicts with other federal policies that promote the production and use of those fuels.

Proponents of continuing the grant programs claim that eliminating them could impose hardships on states that wish to continue their energy conservation efforts. Many states still rely heavily on such grants to help low-income households and public institutions. In addition, the voluntary energy savings those programs effect could contribute to reducing greenhouse gas emissions. Such considerations may result in continued federal support for the energy conservation grants.

270-05 Eliminate Electrification and Telephone Credit Subsidies Provided by the Rural Utilities Service

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	52	12
2003	55	22
2004	55	32
2005	55	43
2006	55	49
2002-2006	272	158
2002-2011	547	422
Relative to Inflated Appropriations		
2002	53	13
2003	58	23
2004	60	35
2005	61	46
2006	62	54
2002-2006	295	171
2002-2011	631	483

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-06, 270-07, 270-11, 450-01, REV-40, REV-45, and REV-46

RELATED CBO PUBLICATIONS:

Should the Federal Government Sell Electricity? (Study), November 1997.

Electric Utilities: Deregulation and Stranded Costs (Paper), October 1998.

The Rural Utilities Service (RUS) is an agency within the Department of Agriculture that, among other activities, offers financial assistance through subsidized loans and grants to electric and telephone companies serving primarily rural areas. Because electric and telephone services are now well-developed in rural areas, questions have arisen as to whether those subsidies should continue to be offered. This option would eliminate the credit subsidies provided through loans for electrification and telephone service that were previously administered by the Rural Electrification Administration, the RUS's predecessor. (Potential savings from cutting other programs of the RUS are described in option 450-01.)

For 2001, the RUS's subsidies to electric and telephone companies total about $41 million. In addition, the agency spends nearly $35 million per year administering those programs. Eliminating the credit subsidies for loans made or guaranteed by the RUS and appropriations used to administer new loans would save, over the 2002-2011 period, $422 million relative to current appropriations and $483 million relative to current appropriations adjusted for inflation.

Those savings would result from discontinuing lending and requiring the RUS's borrowers to use private sources of capital for their loans. Alternatively, the RUS could continue a federal loan program but eliminate subsidies. A loan program with no subsidy costs would require raising the interest rates on loans to rural electric and telephone companies to the level of the Treasury's cost of borrowing; it would also mean charging small loan origination fees to cover the costs of defaults for certain classes of loans.

Critics of the RUS's loan program argue that it has outgrown its original mission and that eliminating it would have little effect on utility rates. Most of the communities that the RUS subsidizes today have more than 1,500 inhabitants, which was the original limit for receiving assistance. Furthermore, more than 95 percent of the rural United States has electric service today. Rates would be largely unaffected because the cost of interest constitutes only a small percentage of the typical customer's bill.

Proponents of the RUS claim that many borrowers still depend on federal loans to maintain and expand utilities. Increasing the interest rates or charging origination fees on some loans would raise the rates that such borrowers charge their customers. Borrowers argue that they need some level of subsidization to keep their service and utility rates comparable with those in urban areas.

270-06 Restructure the Power Marketing Administrations to Charge Higher Rates

	Savings (Millions of dollars) Budget Authority	Outlays
2002	0	0
2003	140	140
2004	140	140
2005	140	140
2006	140	140
2002-2006	560	560
2002-2011	1,260	1,260

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

270-05, 270-07, 270-11, 920-06, REV-40, REV-45, and REV-46

RELATED CBO PUBLICATION:

Should the Federal Government Sell Electricity? (Study), November 1997.

The three smallest power marketing administrations (PMAs) of the Department of Energy—the Western Area Power Administration, the Southwestern Power Administration, and the Southeastern Power Administration—sell about 1 percent of the nation's electricity. Those PMAs sell power at below-market rates.

The power generated by the PMAs comes largely from hydropower facilities that the Army Corps of Engineers and the Bureau of Reclamation have built and continue to operate. Current law requires that those sales be made at cost—a pricing structure intended to ultimately reimburse taxpayers for all of the costs of current operations and a share of the costs of construction and interest on the portion of total costs that has not been repaid. Interest charges are generally below the government's cost of borrowing. Those lower charges, along with the low cost of generating electricity from hydropower, result in power rates for customers that are significantly below the rates that other utilities charge. Current law also requires that PMAs first offer their power to rural electric cooperatives, municipal utilities, and other publicly owned utilities.

Restructuring would require that those three PMAs sell electricity at market rates to any wholesale buyer. Those higher rates would bring in about $140 million in 2003 and increase total receipts by about $1.3 billion through 2011.

Opponents maintain that the rationale for federal power subsidies is weak. The market power of private utilities is checked by federal and state regulation of the power supply; by federal antitrust laws; and, increasingly, by competition from independent producers. In many cases, neighboring communities—some receiving federal power and some not—have similar characteristics. For households in the regions that the three PMAs serve, federal sales of power meet only a small share of their total power needs; therefore, the impact of increased federal rates on households' electricity costs would be small. In addition, bolstering the case for increasing power rates now is the prospect of significant future costs for the PMAs to perform long-deferred maintenance and upgrades. Finally, selling power at below-market rates encourages inefficient use of energy.

Supporters of the federal power program believe that restructuring could greatly increase electricity rates for the many small and rural communities served by PMAs. Supporters also argue that continuing low-cost federal power is necessary to counter the uncompetitive practices of investor-owned utilities and to bolster the economies of certain regions of the country.

270-07 Sell the Southeastern Power Administration and Related Power-Generation Equipment

	Savings (Millions of dollars) Budget Authority	Outlays
2002	0	0
2003	0	0
2004	1,800	1,800
2005	-128	-128
2006	-130	-130
2002-2006	1,542	1,542
2002-2011	853	853

SPENDING CATEGORY:

Mandatory (excludes discretionary savings for operations)

RELATED OPTIONS:

270-05, 270-06, 270-11, 920-06, REV-40, REV-45, and REV-46

RELATED CBO PUBLICATIONS:

Should the Federal Government Sell Electricity? (Study), November 1997.

Electric Utilities: Deregulation and Stranded Costs (Paper), October 1998.

The Southeastern Power Administration (SEPA) of the Department of Energy sells electricity that comes from hydropower facilities that the Army Corps of Engineers has constructed and operates. SEPA pays private transmission companies to deliver that power to over 300 wholesale customers: rural cooperatives, municipal utilities, and other publicly owned utilities. Selling federal power assets would be consistent with the policy goal of increasing efficiency in energy markets.

SEPA's power rates are designed to recover for taxpayers all of the costs of current operations, a share of the costs of construction, and a nominal interest charge on the portion of the total costs that has not yet been recovered. The average revenues from SEPA power (for sales other than to the Tennessee Valley Authority) are about 3.5 cents per kilowatt-hour (kWh), compared with average revenues in the region of 4.0 cents per kWh.

Selling assets that directly support SEPA's supply of electricity would save about $1.5 billion over the 2002-2006 period. That estimate reflects sale proceeds of about $1.8 billion minus a loss of receipts for that period of about $130 million annually. Over the 2002-2011 period, savings would total $853 million. Those figures do not include discretionary budgetary savings of about $75 million annually from ending appropriations to SEPA and the Corps for operations. The estimate of sale proceeds is based on recent sales of hydroelectric assets in the United States. The Corps's assets that would be transferred include equipment, such as turbines and generators, but not the dams, reservoirs, or waterside properties. The sale would also include rights of access to that equipment and to the water flows necessary for power generation, subject to the constraints of competing uses of the water.

The original reasons for establishing SEPA—marketing low-cost power to promote competition and fostering economic development—are no longer compelling to many people because of the small amount of power that SEPA sells and because of competitive and regulatory constraints on power rates. Also, selling federal facilities does not mean transferring all functions in managing and protecting the water as a resource. The Corps could retain direct responsibility for managing water flows for all uses, including the upkeep of basic physical structures and surrounding properties. Or, as with other nonfederal dams, the terms of the federal licenses to operate the facilities (issued by the Federal Energy Regulatory Commission) could determine the management of water flows for competing purposes.

Proponents of maintaining federal ownership believe that nonfederal entities lack the proper incentives to perform all of SEPA's functions. Many Corps facilities serve multiple purposes, managing water resources for navigation, flood control, or recreation as well as for power generation. Proponents also argue that selling SEPA could increase power rates. Although sales by SEPA meet only about 1 percent of the total power needs in the 11 states where it operates, a few communities depend heavily on SEPA.

270-08 Eliminate Federal Funding for the Partnership for a New Generation of Vehicles

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	196	55
2003	239	165
2004	239	218
2005	239	233
2006	239	236
2002-2006	1,152	907
2002-2011	2,347	2,092
Relative to Inflated Appropriations		
2002	200	56
2003	249	170
2004	254	228
2005	259	248
2006	264	256
2002-2006	1,226	958
2002-2011	2,622	2,314

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-01, 270-02, 270-03, 300-15, REV-38, REV-50, and REV-55

The Partnership for a New Generation of Vehicles (PNGV) is a joint federal/private research effort focusing on energy-efficient vehicles. The partnership draws on the resources of several federal agencies, most notably the Department of Energy (DOE). Over the 2002-2011 period, eliminating the program would save $2.1 billion relative to current appropriations and $2.3 billion relative to those appropriations adjusted for inflation. (Because the PNGV and DOE's energy conservation programs—discussed in option 270-02—are related, the savings from eliminating both of them would be less than the sum of the figures for the two options.)

Critics of the PNGV argue that instead of using general tax revenues to support applied research, the federal government could more effectively increase the efficiency of the nation's automotive fleet by raising gasoline taxes, user fees, or both for vehicles that get low mileage per gallon of fuel. Critics also point out that the program may not reach its goal of creating a production-ready vehicle by 2004. Further, both the prospect of tougher emissions standards in the future as well as recent advances in fuel cell technology call into question the long-term viability of the hybrid (that is, diesel and electric) motor used in PNGV automobiles. Competitive pressures also raise doubts about the PNGV's usefulness. Both Honda and Toyota have begun marketing high-mileage cars in the United States. If those efforts succeed, then domestic automakers should have sufficient commercial incentive to continue their research and hence should no longer need federal support. Finally, critics contend that because the federal contribution to the PNGV has, to date, accounted for only a small fraction of total spending on research and development by participating automakers, those firms could probably finance such efforts privately.

Proponents of the PNGV argue that imperfections in energy markets and environmental considerations make it desirable for government policy to encourage energy-efficient technologies. Although sport utility vehicles, minivans, and pickups have more than doubled their market share since 1983, claiming 46 percent of the U.S. market in 1999 (and demonstrating consumers' relative lack of enthusiasm for high-mileage vehicles), the PNGV program conducts research that could contribute to the production of desirable high-mileage vehicles. Given the uncertainty surrounding future energy prices and environmental conditions, levying taxes or user fees to reduce fuel consumption could impose a burden on consumers that outweighed eventual benefits. From this perspective, funding research through the PNGV program may constitute a better alternative for ultimately reducing fuel consumption.

270-09 Sell Oil from the Strategic Petroleum Reserve

	Savings (Millions of dollars) Budget Authority	Outlays
2002	293	293
2003	357	357
2004	364	364
2005	373	373
2006	383	383
2002-2006	1,771	1,771
2002-2011	1,901	1,901

SPENDING CATEGORY:

Mandatory

RELATED CBO PUBLICATION:

Rethinking Emergency Energy Policy (Study), December 1994.

The Strategic Petroleum Reserve (SPR) is a government-owned stock of crude oil that was first authorized in 1975 to help safeguard the nation against the threat of a severe disruption of oil supplies. The threat of politically motivated disruptions has diminished since then, and the reserve has recently been called upon to help manage prices.

Consisting of four underground sites along the Gulf of Mexico, the SPR currently holds about 550 million barrels of oil. The Department of Energy (DOE) can draw from the SPR a maximum of about 4 million barrels per day (20 percent of the nation's current petroleum use) for 90 days. The department has released large quantities of oil only twice—during the Persian Gulf War and in fall 2000 in response to a tight oil market. The government's net investment in the SPR is about $16 billion for oil and about $4 billion for storage and transportation facilities. At a price of $25 per barrel, that oil would be valued at about $14 billion.

This option would require DOE to reduce the size and excess capacity of the SPR by closing the smallest storage site, Bayou Choctaw, and selling the site's 71 million barrels of oil over a five-year period. It would place at least 10 million but no more than 20 million barrels on the market each year to minimize the impact on world oil prices. The Congressional Budget Office estimates that receipts from the oil sales would total $1.9 billion over the 2002-2011 period, and appropriations for operating the reserve could be reduced after the site was decommissioned toward the end of the decade. The option conforms with past Congressional actions: in 1996 and 1997, the Congress directed DOE to sell SPR oil to offset spending on the reserve and other programs. In the past year, DOE boosted the SPR's holdings even though there was no Congressional appropriation for purchases. In one case, royalties owed to the federal government by private companies were taken in oil, rather than cash, and diverted to the reserve. In another case, DOE engaged in physical swaps.

The argument for reducing the SPR is supported by changes in the reserve's benefits and costs since 1975. Structural changes in energy markets and the economy at large have reduced the potential costs of a disruption of oil supplies and consequently the benefits from releasing oil in a crisis. The increasing diversity of world oil supplies and the growing integration of the economies of oil-producing and oil-consuming nations also lessen the risk of such disruptions. Moreover, DOE's experience in its Persian Gulf War sale and other recent sales indicates that the process of deciding to release oil and the sales mechanism can contribute to market uncertainty, diminishing the benefits of a release. The rising costs of maintaining the SPR also strengthen the case for this option: many of the SPR's facilities are aging and have required unanticipated spending for repairs.

Arguments against closing the site and selling the oil stress logistical and pricing concerns. Closing Bayou Choctaw could reduce DOE's flexibility in distributing oil from a drawdown, especially in the Mississippi Valley. Another argument against this option concerns the effect of selling SPR oil on domestic oil producers, which prompted the Congress to repeal legislation in 1998 requiring oil to be sold.

270-10 Eliminate the Analysis Function of the Energy Information Administration

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	7	4
2003	9	8
2004	9	9
2005	9	9
2006	9	9
2002-2006	43	40
2002-2011	88	85
Relative to Inflated Appropriations		
2002	7	4
2003	9	9
2004	10	10
2005	10	10
2006	10	10
2002-2006	46	42
2002-2011	99	95

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

350-01 and 350-04

The Energy Information Administration (EIA), created by the Congress in 1977, is an independent statistical agency of the Department of Energy. EIA has two missions. One is to collect and publish data on energy resources and reserves, production, demand, and technologies, as well as related financial and statistical information on the adequacy of energy resources in meeting U.S. demand. The other is to provide analyses of those subjects. Questions about the appropriateness and current need for the analyses underlie this option. Eliminating the analysis function, which includes energy forecasting, would save $4 million in 2002 out of EIA's total budget of $76 million. Over the 2002-2011 period, this option would save $85 million relative to current appropriations and $95 million relative to current appropriations adjusted for inflation.

The Congress created EIA when many people thought that the United States would deplete its reserves of fossil fuels. Because that concern has been alleviated, some argue that eliminating EIA's analysis function is appropriate. Furthermore, some critics of EIA assert that analyses that support policy decisions are already done by academicians, the Department of Energy's Policy Office, the Congressional Research Service, and the General Accounting Office. In addition, some critics note that industry's willingness to fund specific research activities through trade associations, such as the American Petroleum Institute and the Edison Electric Institute, suggests that EIA is providing a service that the private sector would perform on its own.

EIA supporters maintain that an independent party should collect, analyze, and disseminate information. They argue that access to such information is important to a competitive market. Although concerns about energy supplies have been alleviated, the Congress is now addressing such issues as global warming. Without independent analyses, the Congress would have to choose among conflicting studies done by the Administration, environmental groups, and industry sources.

Additional savings could be obtained by eliminating some of EIA's data collection responsibilities or moving them to other agencies, such as the Federal Energy Regulatory Commission. Much of the information collected and distributed by EIA is available through newspapers and trade sources. Natural gas and electricity futures are traded on the New York Mercantile Exchange and other exchanges and are published daily in the *Wall Street Journal*. Although EIA conducts its own statistical surveys, it also develops reports based on information collected by the Federal Energy Regulatory Commission.

270-11 Require the Tennessee Valley Authority to Accelerate the Repayment of Deferred Nuclear Assets and Limit Its Future Borrowing

	Outlay Savings (Millions of dollars)
2002	0
2003	275
2004	275
2005	275
2006	275
2002-2006	1,100
2002-2011	2,475

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

270-05, 270-06, 270-07, 920-06, REV-40, REV-45, and REV-46

RELATED CBO PUBLICATION:

Should the Federal Government Sell Electricity? (Study), November 1997.

The Tennessee Valley Authority (TVA), a federal agency, is one of the largest electric utilities in the nation. Under current law, TVA sets rates for the electricity that it sells so that over time, receipts from its sales will be sufficient to pay for routine operations, capital projects, and certain other activities. TVA finances some of those costs by borrowing from the public, subject to a limit of $30 billion in outstanding debt at any given time. Currently, TVA's outstanding debt totals about $26 billion, an amount that the agency and others suggest may be too high in today's increasingly competitive electricity market. Of particular concern is the agency's ability to repay $6.3 billion that it has invested in building nuclear power plants whose completion has been deferred.

This option would amend laws governing TVA's financial operations in two ways. First, it would require the agency to pay off its $6.3 billion investment in deferred nuclear assets within the next 10 years. (Those payments would be in addition to the agency's regular depreciation of its other assets.) Second, the option would lower the limit on TVA's outstanding debt to $25 billion for fiscal year 2002 and periodically reduce that limit further so that the borrowing cap would be $18 billion by the end of 2011. The Congressional Budget Office estimates that those changes would reduce TVA's net outlays by an average of about $275 million a year beginning in 2003. Savings over the 2002-2006 period—which could result from reductions in spending, increases in power revenues, or some combination of the two—would total about $1.1 billion. Savings over the 2002-2011 period would be nearly $2.5 billion.

In addition to those savings, CBO expects TVA to retire substantial amounts of its debt under current law. In 1997, the agency announced a series of actions aimed at cutting its debt in half by 2007. Despite those initiatives, however, TVA has paid off less debt over the past three years than it planned, largely because of additional spending on new power plants and emission controls. CBO projects that under current law, TVA's outstanding debt will decline to about $20.5 billion by the end of 2011. CBO's projection of TVA's debt—and of the effects of this option—may change if TVA revises its debt management policies when it adopts a new financial plan this year.

This option would address several concerns about TVA's operations. Adopting a statutory timetable for repaying TVA's investment in deferred assets would allay concerns that taxpayers—rather than TVA—will be saddled with those costs if the utility has to reduce its prices in the future to stay competitive. Indeed, a key rationale for reducing TVA's debt-related costs is to increase the agency's flexibility in setting rates so that it can remain a viable competitor. Lowering the debt limit would bring the statutory ceiling in line with TVA's long-term plans, giving customers greater assurance that debt-related costs could not climb in the future unless authorized by the Congress.

Advocates for the status quo argue that such restrictions are unnecessary and could impair TVA's ability to manage its 6-billion-dollar-a-year electricity business efficiently. They point to the initiatives that the agency announced in 1997 as evidence that market forces, rather than new government controls, will lead TVA to lower its debt and restrain its spending. They also argue that this option could force TVA to keep prices higher than anticipated, at least in the near term.

300

Natural Resources and Environment

Budget function 300 supports programs administered by the Army Corps of Engineers, the Department of Agriculture, the Department of the Interior, the Environmental Protection Agency, and the Department of Commerce's National Oceanic and Atmospheric Administration. Those programs involve water resources, conservation, land management, pollution control, and natural resources. CBO estimates that discretionary outlays for function 300 will total $26.3 billion in 2001. Since 1990, spending under this function has increased almost every year.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	18.6	19.6	21.3	21.4	22.4	20.4	20.6	22.4	23.4	23.8	24.7	28.7
Outlays												
Discretionary	17.8	18.6	20.0	20.1	20.8	21.9	20.9	21.3	21.9	23.7	25.0	26.3
Mandatory	-0.7	0	0	0.2	0.2	0	0.6	-0.1	0.4	0.3	0.1	0
Total	17.1	18.6	20.0	20.2	21.0	21.9	21.5	21.2	22.3	24.0	25.0	26.3
Memorandum:												
Annual Percentage Change in Discretionary Outlays		4.5	7.7	0.2	3.7	5.4	-4.6	1.7	3.0	7.9	5.6	5.4

300-01 Increase Net Receipts from National Timber Sales

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	65	60
2003	80	75
2004	100	90
2005	110	100
2006	100	100
2002-2006	455	425
2002-2011	1,035	1,000
Relative to Inflated Appropriations		
2002	65	60
2003	85	80
2004	105	95
2005	120	110
2006	115	110
2002-2006	490	455
2002-2011	1,685	1,615

SPENDING CATEGORY:

The net of reduced discretionary outlays and forgone mandatory receipts

RELATED OPTIONS:

300-06, 300-07, 300-08, 300-11, and REV-39

The Forest Service (FS) manages federal timber sales from 119 national forests. The spending necessary to make those sales in some cases is larger than the receipts paid to the government. As a result, questions have arisen about whether those sales should be made.

In fiscal year 1998, the FS sold roughly 3 billion board feet of public timber. Purchasers may harvest the timber over several years and pay the FS upon harvest. The total fiscal year 1998 harvest, approximately 3.3 billion board feet, represented a continuing decline in volume from previous years. According to *Timber Sales Program Annual Reports* published by the FS, in recent years, the FS spent more on the timber program than it collected from companies harvesting the timber. In 1997, the expenses reported by the FS exceeded the receipts by about $90 million. However, in calculating expenses, the FS excluded receipt-sharing payments to states. With such payments included, expenses exceeded receipts by more than $160 million (or almost 30 percent) in fiscal year 1997.

The FS does not maintain the data needed to estimate the annual receipts and expenditures associated with each individual timber sale. Therefore, it is hard to determine precisely the possible budgetary savings from phasing out all timber sales in the National Forest System for which expenditures are likely to exceed receipts. To illustrate the potential savings, however, this option estimates the reduction in net outlays in the federal budget from eliminating all future timber sales in five National Forest System regions for which expenditures significantly exceeded receipts in fiscal years 1996 and 1997.

In those five regions (the Northern, Rocky Mountain, Southwestern, Intermountain, and Alaska regions), cash expenditures exceeded cash receipts by at least 30 percent in 1996 and 1997. Eliminating all future timber sales from those regions would reduce the FS's outlays for the 2002-2011 period by about $1.6 billion; timber receipts (which are categorized as mandatory) would fall by about $600 million after payments to states were substracted, producing net savings of $1 billion relative to current appropriations. (Hence, the savings estimates are the net effect of changes in both discretionary and mandatory accounts.) Total 2002-2011 savings would be $1.6 billion relative to current appropriations adjusted for inflation.

Timber sales for which spending exceeds receipts have several potential drawbacks. They may lead to reductions in the federal surplus, excessive depletion of federal timber resources, and the destruction of roadless forests that have recreational value.

Potential advantages of those sales include the stability they may bring to communities dependent on federal timber for logging and related jobs. Timber sales also provide access to the land—as a result of road construction—for fire protection and recreation.

300-02 Impose a 10-Year Moratorium on Land Purchases Made or Funded by the Departments of Agriculture and the Interior

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	531	170
2003	531	354
2004	531	484
2005	531	528
2006	531	531
2002-2006	2,655	2,067
2002-2011	5,310	4,722
Relative to Inflated Appropriations		
2002	544	174
2003	553	365
2004	567	507
2005	579	562
2006	591	577
2002-2006	2,834	2,185
2002-2011	5,981	5,261

SPENDING CATEGORY:

Discretionary

For 2001, the Departments of Agriculture and the Interior received appropriations of about $540 million for the purchase of lands that are generally used to create or expand national, regional, and state recreation and conservation areas, including national parks, national forests, wilderness areas, and national wildlife refuges. Ninety-four percent of the 2001 funding was appropriated for federal land acquisitions; the remaining 6 percent was appropriated to fund regional and state acquisitions. This option would place a 10-year moratorium on future appropriations for land acquisitions made or funded by those departments. It would provide for a small annual appropriation ($10 million) to cover emergency acquisition of important tracts that became available on short notice, compensation to "inholders" (landholders whose property lies wholly within the boundaries of an area set aside for public purposes, such as a national park), and ongoing administrative expenses. Outlay savings from this option would total $4.7 billion through 2011 relative to current appropriations and $5.3 billion relative to current appropriations adjusted for inflation.

Proponents of this option argue that federal land management agencies should improve their stewardship of the lands they already own before taking on additional management responsibilities. In many instances, the National Park Service, the Forest Service, and the Bureau of Land Management find it difficult to maintain and finance operations on their existing landholdings. Furthermore, given the limited operating funds of those agencies, environmental objectives such as habitat protection and access to recreation might be best met by improving management in currently held areas rather than providing minimal management over a larger domain. Supporters of this option also argue that even without the 2001 appropriations, the federal government already owns enough lands. Currently, about 650 million acres—approximately 30 percent of the United States' land mass—belong to the government, according to the General Services Administration. The sentiment that that amount is sufficient is particularly strong in the West, where the federal government owns about 62 percent of the land area in 11 states.

Opponents of this option argue that future land purchases are necessary to achieve the objectives of ecosystem management and fulfill existing obligations for national parks. Many of the lands targeted by the Congress for new and expanded federal reserves are privately held, and acquiring them will require purchases. Furthermore, encroaching urban development and related activities outside the boundaries of national parks and other federal landholdings may be damaging the federal resources, so land acquisitions are an important tool for mitigating that problem, critics argue. Acquisitions that consolidate landholdings may also help improve the efficiency of public land management.

300-03 Eliminate Federal Grants for Water Infrastructure

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	2,624	131
2003	2,624	525
2004	2,624	1,312
2005	2,624	2,099
2006	2,624	2,493
2002-2006	13,120	6,560
2002-2011	26,240	19,024
Relative to Inflated Appropriations		
2002	2,681	134
2003	2,735	539
2004	2,787	1,354
2005	2,840	2,185
2006	2,894	2,629
2002-2006	13,937	6,841
2002-2011	29,253	20,760

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

450-01

RELATED CBO PUBLICATION:

The Economic Effects of Federal Spending on Infrastructure and Other Investments (Paper), June 1998.

The Clean Water Act (CWA) and the Safe Drinking Water Act (SDWA) require municipal wastewater and drinking water systems to meet certain performance standards to protect the quality of the nation's waters and the safety of its drinking water supply. The CWA provides financial assistance so communities can construct wastewater treatment plants that comply with the act's provisions. The 1996 amendments to the SDWA authorized a state revolving loan program for drinking water infrastructure. For 2001, the Congress appropriated about $2.6 billion for the Environmental Protection Agency's (EPA's) programs for wastewater and drinking water infrastructure. Ending all of EPA's funding of water facilities after 2001 would save $19.0 billion through 2011 measured against the 2001 funding level and $20.8 billion measured against that level adjusted for inflation.

Title II of the CWA provides for grants to states and municipalities for constructing wastewater treatment facilities. As amended in 1987, the CWA phased out title II grants and authorized a new grant program under title VI to support state revolving funds (SRFs) for water pollution control. Under the new system, states continue to receive federal grants, but now they are responsible for developing and operating their own programs. For each dollar of title VI grant money a state receives, it must contribute 20 cents to its SRF. States use the combined funds to make low-interest loans to communities for building or upgrading municipal wastewater treatment facilities. Although authorization for the SRF program under the CWA has expired, the Congress continues to provide annual appropriations for grants.

As amended in 1996, the SDWA authorizes EPA to make grants to states for capitalizing revolving loan funds for treating drinking water. As with the CWA's wastewater SRF program, states may use those funds to make low-cost financing available to public water systems for constructing facilities to treat drinking water. In 2001, the Congress appropriated $825 million for capitalization grants for drinking water SRFs.

Proponents of eliminating federal grants to water-related SRFs say such grants may encourage inefficient decisions about water treatment by allowing states to loan money at below-market interest rates, which in turn could reduce incentives for local governments to find less costly alternatives for controlling water pollution and treating drinking water (see "Drinking Water and Wastewater Infrastructure" in Chapter 3). In addition, federal contributions to wastewater SRFs were intended to help move toward full state and local financing. Thus, proponents of ending federal grants to those SRFs argue that the program was intended to be temporary and may have replaced, rather than supplemented, state and local spending.

Opponents of such cuts argue that the need for investments to reduce health threats in drinking water (from cryptosporidium, for example) and protect the nation's waters (from sewer overflows, for example) is so large that federal aid should be increased, not reduced. They say that water systems in many small and economically disadvantaged communities will be unable to comply with the CWA's and SDWA's new and forthcoming requirements without external assistance and that states cannot supply all of the needed funding. They further argue that eliminating the federal grants would mean that even many large systems, which tend to have lower costs because of economies of scale, would have to charge rates that would pose significant hardships for low- and moderate-income households.

300-04 Spend the Remaining Balance of the Superfund Trust Fund and Terminate the Program

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	0	0
2003	1,270	318
2004	1,270	762
2005	1,270	1,016
2006	1,270	1,143
2002-2006	5,080	3,239
2002-2011	11,430	9,271
Relative to Inflated Appropriations		
2002	0	0
2003	1,329	332
2004	1,360	805
2005	1,391	1,089
2006	1,423	1,247
2002-2006	5,502	3,474
2002-2011	13,123	10,502

SPENDING CATEGORY:

Discretionary

Since 1981, the Superfund program of the Environmental Protection Agency (EPA) has been charged with cleaning up the nation's worst hazardous waste sites, particularly those on the National Priorities List (NPL). The program made progress in the 1990s, especially in increasing the number of sites in the final phase of the cleanup process, but more work remains. As of the end of fiscal year 2000, EPA had identified 757 of 1,443 NPL sites addressed through the Superfund program as "construction complete," meaning that all physical construction required for the cleanup (capping a landfill, installing a groundwater treatment system, and the like) was done. Construction or remedies had begun but had not been completed at 417 current NPL sites and had not yet started at 269 sites. In addition, EPA has proposed that another 59 sites be added to the list, and hundreds more sites with NPL-caliber problems probably remain to be identified.

Although the Congress could choose to end the program at any time, one notable occasion to do so might be the forthcoming depletion of the Hazardous Substance Superfund; that trust fund has been the main source of the program's appropriations, with some additional money coming from the general fund. The trust fund balance has declined since Superfund's "environmental income tax" on corporations and excise taxes on oil, petroleum products, and certain chemicals expired in 1995. The trust fund ended fiscal year 2000 with an unappropriated balance of about $1.3 billion, enough for the program to run at roughly current funding levels through 2002. (For 2001, the Congress appropriated $635 million from the trust fund and $635 million from the general fund.) If the end of 2002 is too close at hand to shut down the program in a safe and orderly way, the Congress could reduce annual spending to stretch the same total funding for additional months or years.

The argument for spending the trust fund balance and terminating Superfund asserts that the program is not worthwhile, at least not at the federal level. Superfund's critics argue that the program's cost is disproportionate to the threat represented by hazardous waste sites and that its system of retroactive, joint-and-several liability is irremediably inefficient and unfair. They also argue that waste sites are local problems that are more appropriately handled by the states, almost all of which have their own hazardous waste cleanup programs for sites not addressed under federal law. Although depleting the trust fund has no budgetary significance, it provides a near-term opportunity to shut the program down—unlike, for example, merely closing the NPL to new sites, which would require maintaining some federal program for most or all of the decade.

Superfund's defenders point to evidence linking Superfund sites to human health problems, including birth defects, leukemia, cardiovascular abnormalities, respiratory illnesses, and immune disorders, and note that the public places a high priority on waste cleanup. They argue further that Superfund has reduced costs and completed more cleanups in recent years and that modest legislative reforms can improve the program. Finally, they note that states vary widely in their capacity to handle NPL-caliber problems.

300-05 Charge Market Rates for Information Provided by the National Weather Service

	Added Receipts (Millions of dollars)
2002	2
2003	2
2004	2
2005	2
2006	2
2002-2006	10
2002-2011	20

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection or a mandatory offsetting receipt depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

370-02 and 400-05

The National Weather Service (NWS) provides public forecasts, weather and flood warnings, and severe-weather advisories to protect lives and reduce property damage from those hazards. The annual budget for such services, including operating weather satellites, is about $1 billion. Currently, the NWS allows open access to all of its weather data and information services. Commercial users—such as the Weather Channel and Accu-Weather—pay fees only for the costs of computer hookups and transmission of the NWS's data. Moreover, the NWS charges nothing for information received from its satellite broadcasts or Internet site. Charging fees that are based on the fair market value of access to that information, except for severe-weather warnings, could raise $2 million in 2002, $10 million over five years, and $20 million over 10 years.

Charging market value for general weather information might lessen its dissemination but encourage the production and presentation of more useful information. Supporters of this option contend that charging market-based fees would not substantially reduce the public's access to weather reports because the news media would probably pay for private forecasts based on the NWS's data. In addition, because the fees would not apply to severe-weather warnings, the safety of the general public would not be compromised. Many European nations routinely charge users for weather information provided by their satellites. For example, the British Meteorological Office raises over $30 million a year from commercial customers.

In the past, the NWS viewed charging fair market fees as a significant barrier to the public's access to its information. The Omnibus Budget Reconciliation Act of 1990 attempted to set fees based on the fair market value of the NWS's data and information, except for information related to warnings and watches, information provided under international agreements, and data for nonprofit institutions. However, the NWS received approval from the Office of Management and Budget to reset the user fees to recover only the cost of disseminating the information.

300-06 Change the Revenue-Sharing Formula from a Gross-Receipt to a Net-Receipt Basis for Commercial Activities on Federal Lands

	Savings (Millions of dollars) Budget Authority	Outlays
2002	230	230
2003	230	230
2004	240	240
2005	240	240
2006	250	250
2002-2006	1,190	1,190
2002-2011	2,340	2,340

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

300-01, 300-07, 300-08, and 300-11

The federal government owns about 650 million acres of public lands—nearly one-third of the United States' land mass. Those lands contain a rich supply of natural resources: timber, coal, forage for livestock, oil and natural gas, and many nonfuel minerals. Private interests have access to many of the federal lands to develop those resources and generally pay fees to the federal government depending on the commercial returns realized. In many cases, the federal government allots a percentage of those receipts to the states and counties containing the resources, as compensation for tax revenues they did not receive from the federal lands within their boundaries. The federal government calculates those allotments on a gross-receipt basis before accounting for its program costs. That practice sometimes causes the federal government's costs to exceed its share of receipts. Therefore, shifting payments to a net-receipt basis would reduce federal outlays by $2.3 billion over 10 years.

The Minerals Management Service (MMS) shares 50 percent of gross onshore mineral receipts with states. The Department of the Interior allots an average of 18 percent of its grazing fees, 4 percent of its mining fees from "common variety" materials, and 4 percent of its timber receipts to the respective states and counties. The Forest Service is required to allot 25 percent of its gross receipts from commercial activities in the national forests to states. For fiscal years 2002 through 2007, however, states and counties may elect to receive payments determined on the basis of an average of past payments rather than their share of timber receipts. (This option assumes that administrative costs would be deducted from such payments on the basis of past receipts and from other payments to states on the basis of current receipts.)

Federal savings would be substantial if the Congress required those agencies to deduct more of their program costs from gross receipts before paying the states. The regional jurisdictions would continue to receive the same allotted percentage of net federal receipts—totaling about $1.2 billion in 2002. The projected savings do not include potential federal cost increases under the Payment in Lieu of Taxes (PILT) program, which was established to offset the effects of nontaxable federal lands on local governments' budgets. Payments in lieu of taxes are partially reduced by the amount of revenue-sharing payments from federal agencies. Payments under the PILT program would increase by about $35 million a year beginning in fiscal year 2003 if agencies shared net receipts and the Congress appropriated such an increase.

Changing the revenue-sharing formula to a net-receipt basis would probably cause economic hardship to the respective states and counties, greatly reducing their revenue and spending. To help alleviate that hardship, the formula could switch gradually to a net-receipt basis over several years.

300-07 Reauthorize Holding Fees and Charge Royalties for Hardrock Mining on Federal Lands

	Added Receipts (Millions of dollars)
2002	36
2003	44
2004	41
2005	41
2006	41
2002-2006	203
2002-2011	408

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection or a mandatory offsetting receipt depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

300-01, 300-06, 300-08, 300-11, REV-35, and REV-36

RELATED CBO PUBLICATIONS:

Review of the American Mining Congress Study of Changes to the Mining Law of 1872 (Memorandum), April 1992.

Alternative Proposals for Royalties on Hardrock Minerals (Testimony), May 4, 1993.

The General Mining Law of 1872, which originally supported the policy of encouraging settlement of the American West, governs access to hardrock minerals—including gold, silver, copper, and uranium—on public lands. Unlike producers of fossil fuels and other minerals from public lands, miners do not pay royalties to the government on the value of hardrock minerals they extract. Instead, under the mining law, holders of more than 10 mining claims on public lands pay an annual holding fee of $100 per claim, and claimholders pay a $25 location fee when recording a claim. However, authorization for the federal government to collect the holding and location fees expires in 2001.

Estimates place the current gross value of the production of hardrock minerals at about $650 million annually (excluding claims with patent applications in process). That sum has diminished greatly in recent years because of patenting activity. (In patenting, miners gain title to public lands by paying a one-time fee of $2.50 or $5.00 an acre.) This option would reauthorize the current holding fee and location fee and assumes that such fees would be recorded as offsetting receipts to the Treasury. (They are currently counted as offsetting collections to appropriations.) The option also includes an 8 percent royalty that the Congress could impose on the production of hardrock minerals from public lands. That royalty would apply to net proceeds (defined here as revenues from sales minus costs for mining, separation, transportation, and other items).

Total budgetary receipts from those actions would be $408 million over the 2002-2011 period. Of that total, the reauthorization of holding and location fees would account for about $330 million and royalty collections for about $78 million. Those estimates assume that states in which the mining takes place would receive 25 percent of the gross royalty receipts. They also assume that no further patenting of public lands would occur. (In comparison, royalties based on gross proceeds would raise more money. In general, the costs of administering any royalty based on net proceeds would exceed those for a royalty based on gross proceeds.)

People in favor of reforming the mining law—including many environmental advocates—argue that low holding fees and zero royalties make producing minerals on federal lands less costly than on private lands (where the payment of royalties is the rule). That policy, they contend, encourages overdevelopment of public lands, which may cause severe environmental damage. Reforming the law could promote other uses of those lands, such as recreation and wilderness conservation.

Opponents of reform argue that without free access to public resources, exploration for hardrock minerals in this country—especially by small miners—would decline. They also argue that royalties would diminish the profitability of many mines, leading to scaled-back operations or closure and adverse economic consequences for mining communities in the West. Because many mineral prices are set in world markets, miners would be unable to pass along new royalty costs to consumers.

300-08 Raise Grazing Fees on Public Lands

	Added Receipts (Millions of dollars)
2002	3
2003	4
2004	6
2005	7
2006	8
2002-2006	28
2002-2011	82

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection or a mandatory offsetting receipt depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

300-01, 300-06, 300-07, and 300-11

The federal government owns and manages about 650 million acres of public lands, which have many purposes, including providing grazing for privately owned livestock. Cattle owners compensate the government for using the lands by paying grazing fees, but the fees may not give the public a fair return.

The Forest Service and the Bureau of Land Management (BLM) administer grazing on public rangelands in the West. In 1999, ranchers were authorized to use about 16 million animal unit months (AUMs)—a standard measure of forage—for grazing on those lands.

In 1990, the appraised value of public rangelands in six Western states varied between $5 and $10 per AUM. A 1993 study indicated that the Forest Service and BLM spent $4.60 per AUM in that year to manage their rangelands for grazing. The 1993 fee, however, was $1.86 per AUM. Thus, the current fee structure may subsidize ranchers. (The current fee is $1.35 per AUM.)

The Public Rangelands Improvement Act of 1978 established the current formula for grazing fees. It uses a 1966 base value of $1.23 per AUM and makes adjustments to account for changes in beef cattle markets and in markets for feed, fuel, and other production inputs. The Congress has considered various proposals to increase grazing fees. The increase in federal receipts resulting from any such proposal depends on the degree to which ranchers reduce their use of AUMs in response to higher fees. One proposal is to allocate grazing rights through a bidding process as long as competition is not too limited. Another option is to follow the states' lead. The federal government would determine grazing fees for federal lands in each state the same way the particular state determines grazing fees on state-owned lands. The government would implement this proposal over 10 years as existing permits expired. The 10-year savings estimate of $82 million is net of additional payments to states of about $21 million. It does not include any additional appropriations for range improvements that could result from added receipts.

Proponents of this option believe that the low fees that subsidize ranching contribute to overgrazing and deteriorated range conditions. They support the approach of following decisions made at the state level and reject the one-size-fits-all nature of the current federal fee. State grazing fees and the means of calculating them vary widely by state and sometimes even within a state. Supporters of this approach also point out that states' interest in the revenue received from both state and federal fees lessens any incentive to manipulate state fees to lower federal fees.

Opponents of this approach note that state rangelands may be more valuable than federal lands for grazing purposes. Some formulas used by states to establish fees may not reflect those differences in quality and conditions of use when applied to federal lands. Opponents also point out that the administrative costs of using different procedures to set federal grazing fees in each state would be higher than those incurred under the current uniform federal fee structure. (This option does not consider possible differences in administrative costs.)

300-09 Recover Costs Associated with the Issuance of Permits by the Army Corps of Engineers

	Added Receipts (Millions of dollars)
2002	10
2003	20
2004	21
2005	22
2006	23
2002-2006	96
2002-2011	222

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection or a mandatory offsetting receipt depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

300-10, 300-12, 400-04, and 400-05

RELATED CBO PUBLICATION:

Regulatory Takings and Proposals for Change (Study), December 1998.

The Department of the Army, through the Army Corps of Engineers, administers laws pertaining to the regulation of U.S. navigable waters, including wetlands. The Rivers and Harbors Act of 1890 established the Corps's regulatory program, and section 10 of that act requires the Corps to issue permits for work that would affect navigable waters or materials around those waters. Section 404 of the Clean Water Act (CWA) requires the Corps to issue permits for dredging or placing fill material in U.S. waters or wetlands. In fiscal year 1999, the Corps received about 89,000 permit applications. By increasing fees for permits under sections 10 and 404, the Corps could recover a portion of its annual regulatory costs. Imposing cost-of-service fees on commercial applicants would generate $10 million in 2002 and a total of $222 million through 2011.

Section 404 of the CWA has grown to become the core of the nation's effort to protect wetlands. As legally interpreted, the terms "dredge" and "fill" encompass virtually any activity on a wetland in which dirt is moved, effectively granting the Corps regulatory jurisdiction over all wetlands, including those not associated with traditionally navigable waterways. Under section 404, the Corps is required to evaluate each application and grant or deny a permit on the basis of expert opinion and statutory guidelines. The bulk of the permits are quickly approved through outstanding general or regional permits, which grant authority for many low-impact activities. Evaluation of applications not covered by outstanding permits may require the Corps to conduct detailed, lengthy, and costly reviews.

Currently, the fees levied for commercial and private permits are $100 and $10, respectively. Government applicants do not pay a fee. That fee structure has not changed since 1977. Total fee collections fall far short of covering the costs of administering the program, particularly for applications requiring detailed review. The Clinton Administration proposed changing the permit fee structure: its wetland plan would have increased permit fees for commercial projects and eliminated the fees for private, noncommercial projects.

Proponents of higher fees argue that a party pursuing a permit—not the general taxpaying public—should bear the cost of the permit. Since the permit seeker is advancing a private interest whose benefits accrue to a private party, the cost should be borne by that party. Taxpayers should not have to pay for something that advances the interests of a comparative few.

Permit seekers oppose such fees because they do not want to fund something that may ultimately deny them the right to use their land in the way they choose. The goal of the section 404 program, for example, is to advance a public interest by protecting wetlands. Some people argue that since society benefits from wetlands protection, often at the perceived expense of property owners, society should pay. Furthermore, they contend, the regulatory process that property owners must deal with is already onerous, so raising the permit fees would further infringe on property owners' rights.

300-10 Impose User Fees on the Inland Waterway System

	Added Receipts (Millions of dollars)
2002	0
2003	182
2004	379
2005	389
2006	400
2002-2006	1,350
2002-2011	3,526

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection, a mandatory offsetting receipt, or a tax receipt, depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

300-09, 300-12, 400-04, 400-05, and 400-06

RELATED CBO PUBLICATION:

Paying for Highways, Airways, and Waterways: How Can Users Be Charged? (Study), May 1992.

The Congressional Budget Office estimates that the Army Corps of Engineers will spend about $590 million for the nation's inland waterway system in fiscal year 2001. Of that total, about $340 million will be for operation and maintenance (O&M), and about $250 million will be for new construction. Current law allows up to 50 percent of new inland waterway construction to be funded by revenues from the inland waterway fuel tax, a levy on the fuel consumed by tow boats using most segments of the system. All O&M expenditures are paid by general tax revenues.

Imposing user fees high enough to fully recover both O&M and construction outlays for inland waterways would generate about $3.5 billion over 10 years. The receipts could be considered tax revenues, offsetting receipts, or offsetting collections, depending on the form of the implementing legislation. They could be increased by raising fuel taxes, imposing charges for the use of locks, or imposing fees based on the weight of shipments and distance traveled. (The estimates do not take into account any resulting reductions in income tax revenues.)

Imposing higher fees on users of the inland waterway system could improve the efficiency of its use by forcing shippers to choose the most efficient transportation route rather than the most heavily subsidized one. Moreover, user fees would encourage more efficient use of existing waterways, reducing the need for new construction to alleviate congestion. Finally, user fees send market signals that identify the additional projects likely to provide the greatest net benefits to society.

The effects of user fees on efficiency would depend largely on whether the fees were set at the same rate for all segments of a waterway or on the basis of the cost of each segment. Since costs vary dramatically by segment, systemwide fees would offer weaker incentives for cost-effective spending because they would cause users of segments with low costs per ton-mile to subsidize users of high-cost segments. Fees based on the cost of each segment, by contrast, could cause users to abandon high-cost segments of the waterways.

One argument against user fees is that they might repress economic development in some regions. Fees could be phased in to ameliorate those effects, but that approach would reduce near-term receipts. Imposing higher user fees would also lower the income of barge operators and grain producers in some regions, but those losses would be small in the context of overall regional economies.

300-11 Open the Coastal Plain of the Arctic National Wildlife Refuge to Leasing

	Added Receipts (Millions of dollars)
2002	0
2003	0
2004	0
2005	1,500
2006	0
2002-2006	1,500
2002-2011	1,500

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

300-01, 300-06, 300-07, and 300-08

The Arctic National Wildlife Refuge (ANWR) consists of 19 million acres in northeastern Alaska, of which 1.5 million acres are coastal plain. The coastal plain is the yet-to-be-explored onshore area with perhaps the country's most promising oil-production potential. It is also the least disturbed Arctic coastal region—valued for species conservation and used by indigenous people to support their daily lives.

ANWR was established by the Alaska National Interest Lands Conservation Act of 1980. The refuge serves to conserve fish and wildlife habitats, fulfill related international treaty obligations, provide opportunities to continue indigenous lifestyles, and protect water quality. The act prohibits industry activity in ANWR unless specifically authorized by the Congress.

This option would open ANWR's coastal plain to leasing and development. Leasing would be likely to result in bonus bid payments, ongoing rental payments, and (once production begins, up to 10 or more years after leasing) royalties. As in some proposals, the Congressional Budget Office assumes that the federal government would receive one-half of the offsetting receipts from those sources; the state of Alaska would receive the other half.

The Department of the Interior's most recent assessment of the area's economically recoverable undiscovered petroleum resources is expressed in probabilities and assumptions about the price of oil at the time of production. For this estimate, CBO assumed an average price of $20 per barrel (in 2000 dollars) during the 2010-2040 period, on the basis of the Energy Information Administration's price forecast for 2020 and other price projections. With oil selling for $20 per barrel (delivered to the West Coast), the Department of the Interior estimates a 50 percent probability that at least 2.4 billion barrels of oil will be produced. Using that mean resource assessment and assuming that a single ANWR lease sale is held in 2005, CBO estimates that leasing ANWR would generate about $3 billion from bonus bids in 2005 (with half of that amount going to Alaska). Conversely, the Department of the Interior's assessment indicates that no oil would be economically recoverable from ANWR if oil prices were below $16 per barrel (in 2000 dollars) over the long term. In that case, leasing might not generate any significant proceeds for the government.

Arguments in favor of this option include the national security advantages of reducing dependence on imported oil. Most of ANWR would remain closed to development, and the part of the coastal plain that would be directly affected by oil drilling and production represents less than 1 percent of ANWR. Moreover, technological changes in the industry have improved its ability to safeguard the environment.

An argument against this option is the short-term nature of the still uncertain gain from extracting a nonrenewable resource: it will not provide lasting energy security. The coastal plain is ANWR's most biologically productive area and sustains the biological productivity of the entire refuge. Opponents of leasing in ANWR point out that industrial activity poses a threat to wildlife and the environment despite efforts to mitigate its impact.

300-12 Impose a New Harbor Maintenance Fee

	Added Receipts (Millions of dollars)
2002	70
2003	169
2004	156
2005	141
2006	121
2002-2006	657
2002-2011	921

NOTE: These numbers are net of revenues lost from repealing the existing harbor tax.

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection or a mandatory offsetting receipt depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

300-09, 300-10, 400-05, and 400-06

On March 31, 1998, the Supreme Court found that the harbor maintenance tax (as it applied to exports) violated the constitutional restriction that "No tax or duty shall be laid on articles exported from any State." The federal government ceased collecting the tax on exports on April 25, 1998, but continued to collect the tax on imports. One way to replace the revenue formerly generated by the harbor maintenance tax is to develop a new system of harbor fees that is constitutional. Under such a system, the commercial users of U.S. ports would pay a fee based on port use rather than a payment based on cargo value. Such a fee would apply to imports, exports, and domestic shipments. Taxes currently levied on imports and domestic shipments would be rescinded. Moneys generated by the fee would help support the operation, construction, and maintenance of harbors. The Clinton Administration proposed such a program.

The Army Corps of Engineers now spends about $960 million annually for costs associated with operating, constructing, and maintaining commercial harbors nationwide. A major part of those activities is maintaining adequate channel depths. Replacing what remains of the harbor maintenance tax with a more comprehensive fee on commercial port users would generate $921 million over the 2002-2011 period.

Two arguments can be made for imposing a harbor maintenance fee. First, harbor maintenance activities, such as dredging by the Corps of Engineers, provide a commercial service to identifiable beneficiaries. Modern and well-maintained ports save shippers money by allowing the use of larger vessels and by minimizing inland transport costs. Exporters currently make no payments directly associated with their use of port facilities. Second, imposing a harbor fee would be unlikely to decrease the use of ports because the fee would result in charges on users similar to the ones they recently paid under the rescinded tax.

Whether a new harbor fee would pass constitutional muster is uncertain. Such a fee might be viewed by the Supreme Court as an unconstitutional export tax disguised by another name. A second legal concern with a fee program is whether it would violate international trade agreements, as several international trading partners allege of the harbor maintenance tax. Another drawback of the fee is that after several years, the cash it would generate would not keep pace with the revenue that the rescinded tax on exports would have generated: under the existing harbor maintenance tax on imports, tax collections based on the value of the goods shipped are projected to increase more quickly than the fee in this option, which would be tied to the costs of operating, constructing, and maintaining harbors.

300-13 Terminate Economic Support Fund Payments Under the South Pacific Fisheries Treaty

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	0	0
2003	14	14
2004	14	14
2005	14	14
2006	14	14
2002-2006	56	56
2002-2011	126	126
Relative to Inflated Appropriations		
2002	0	0
2003	15	15
2004	15	15
2005	15	15
2006	15	15
2002-2006	60	60
2002-2011	142	142

SPENDING CATEGORY:

Discretionary

The South Pacific Fisheries Treaty is formally known as the Treaty on Fisheries Between the Governments of Certain Pacific Island States and the Government of the United States of America. Signed in April 1987, it lays out terms and conditions under which up to 55 U.S.-flag commercial fishing vessels may use methods involving special nets (referred to as purse seine) to catch tuna in the territorial waters of 16 Pacific Island states, including Kiribati, Micronesia, and Papua New Guinea. Japan, South Korea, and Taiwan have similar treaties providing access to those waters for their tuna fleets.

Associated with the treaty is an agreement on annual economic assistance paid by the United States to the South Pacific Forum Fisheries Agency. An amended agreement went into effect in 1993, providing for $14 million annually from June 1993 to June 2002. This option would terminate the U.S. government's payments to the South Pacific Forum Fisheries Agency at the end of the current agreement in 2003. Savings would total $126 million over the 2002-2011 period relative to current appropriations and $142 million relative to current appropriations adjusted for inflation.

Currently, the treaty also provides for an annual payment by the U.S. tuna industry to cover license fees for up to 55 vessels as well as technical assistance to the Pacific Island parties. In addition, the treaty calls for the industry to cover the cost of a program under which observers may board vessels for scientific, compliance, monitoring, and other purposes. From June 1993 to June 1998, industry payments for licenses and technical assistance under the treaty were $4 million annually. In that same period, on average, 40 U.S.-flag vessels had access to tuna in the territorial waters of the South Pacific Island states each year. Thus, industry payments per vessel, excluding the cost of the observer program, averaged nearly $100,000 annually.

People in favor of terminating U.S. economic assistance under the treaty believe that taxpayers are supporting the access of private vessels to the territorial waters of the party states. The U.S. subsidy may in fact be encouraging the overexploitation of fisheries.

People who oppose this option believe that the treaty is a vehicle through which the United States provides financial assistance in keeping with its foreign policy interests to the nations in the South Pacific Forum Fisheries Agency. They argue that it is not a subsidy—the fishing industry's own payments under the treaty are comparable with those made by non-U.S. fleets. Those fleets obtain yearly licenses on a bilateral basis with any Pacific Island state of interest at a cost of 5 percent of the value of the previous year's catch.

300-14 Eliminate Federal Funding of Beach Replenishment Projects

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	96	58
2003	96	91
2004	96	96
2005	96	96
2006	96	96
2002-2006	480	437
2002-2011	960	917
Relative to Inflated Appropriations		
2002	99	59
2003	101	95
2004	104	103
2005	106	105
2006	108	107
2002-2006	518	469
2002-2011	1,098	1,043

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

400-02

Each year, the Army Corps of Engineers partially funds and conducts several sand replenishment projects to counter beach erosion. That activity raises questions about the federal role in addressing what may be primarily local problems and the ultimate effectiveness of the replenishment efforts, regardless of who pays for them. The operations typically involve dredging sand from offshore locations and pumping it ashore to rebuild eroded areas. Typically, state and local governments share part of the cost. Ceasing federal funding for beach replenishment activities would reduce discretionary outlays by $917 million for the 2002-2011 period relative to current appropriations and by more than $1 billion relative to current appropriations adjusted for inflation.

Beach replenishment projects have two primary motivations: mitigating damage and enhancing recreation. Beaches act as a barrier to waves and protect coastal property from severe weather. Replenishing eroded beaches helps them maintain that protective function. And because beaches are an important recreational resource in many areas, sand replenishment projects help to ensure that such areas continue to generate economic activity through tourism.

Opponents of federal spending for beach replenishment argue that its benefits accrue largely to the states and localities in which the projects occur. Therefore, such opponents reason, state and local governments should bear the projects' entire cost, not the federal government. Another argument against any funding, federal or otherwise, of replenishment projects is their ultimate futility. Beach erosion is an irreversible natural process, and replenishment projects serve only to temporarily delay the inevitable natural shifting of beaches. A better long-term solution, opponents argue, would be to accept the fact that beaches will shift over time and to remove the various retention structures that inhibit the natural flow of sand along beaches and sometimes exacerbate erosion.

Supporters of replenishment projects argue that beach replenishment benefits the nation at large as well as specific states and localities. Advocates further contend that it would be unfair to stop federal funding because the municipalities and property owners made investments with the expectation of continuing federal support. Proponents also argue that in some cases, federal projects—such as those intended to keep coastal inlets open—contribute to beach erosion and that the federal government should bear part of the cost of replenishment in those cases.

300-15 Eliminate Energy-Efficiency Partnerships of EPA

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	53	45
2003	53	53
2004	53	53
2005	53	53
2006	53	53
2002-2006	265	257
2002-2011	530	522
Relative to Inflated Appropriations		
2002	56	47
2003	57	57
2004	59	58
2005	60	60
2006	61	61
2002-2006	293	283
2002-2011	624	613

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-02, 270-04, 270-08, and 370-04

The Climate Change Technology Initiative (CCTI) is a governmentwide strategy to stabilize emissions of greenhouse gases. It includes several partnership programs of the Environmental Protection Agency (EPA) that are intended to stimulate the adoption of energy-efficient technologies and the use of renewable energy by households and businesses. This option would halt new appropriations for two of EPA's activities that are a part of the CCTI but may contribute few environmental benefits: the Energy Star and Green Lights programs for labeling energy-efficient products and the Climate Wise program of public/private partnerships to encourage businesses to save energy. Doing that would save outlays of $522 million over the 2002-2011 period relative to current appropriations. It would save $613 million over that same period relative to current appropriations adjusted for inflation.

Energy Star and Green Lights are product-labeling programs meant to encourage businesses to sell products that meet or exceed federal guidelines for energy efficiency and to raise consumers' awareness of energy-efficient products. The types of products that EPA has designated to receive the labels include lighting fixtures, home appliances, office equipment, home construction materials, and residential structures. EPA also disseminates information on sellers of the labeled products and offers participants some technical assistance in implementing changes that increase energy efficiency. The Climate Wise program assists businesses in identifying actions that may help them save energy and reduce production costs—by providing free pollution-prevention and energy-efficiency assessments, for instance. For all of those programs, the main benefits to participants are in the public recognition and free advertising that they receive for their efforts.

Supporters of those activities emphasize that saving energy may reduce emissions of greenhouse gases (primarily carbon dioxide) and other toxic or smog-producing elements. They also believe that EPA is addressing market failures because consumers do not see the full public benefits of using energy-saving products. Insufficient consumer interest in energy efficiency may compound industry's normal disincentive to invest in uncertain new technologies.

Critics, however, question the actual energy savings and whether any savings that do occur reduce greenhouse gas emissions. For example, putting a government label on products that already meet government standards may produce little gain. Furthermore, encouraging consumers to purchase an electric appliance identified by EPA's partnerships rather than a less-efficient gas appliance could actually increase carbon dioxide emissions because the carbon content of the coal used to produce electricity is so high.

350

Agriculture

Budget function 350 covers programs administered by the Department of Agriculture, including such activities as agricultural research and the stabilization of farm incomes through loans, subsidies, and other payments to farmers. CBO estimates that discretionary outlays for function 350 will total $4.7 billion in 2001, and mandatory outlays will total $19.0 billion—a 40 percent decline from the record high of $32.0 billion last year but still the second highest level since 1987. Much of that decline occurs because $13 billion in emergency appropriations for 2000 are not continued in later years of CBO's baseline. Thus far, $3.6 billion in similar emergency appropriations have been provided for 2001. Under current budgetary practices, such emergency funds are considered one-time additions to mandatory spending. Spending on core farm programs is estimated to remain high in 2001 because of continuing low crop prices and weak global demand.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	2.7	3.1	4.5	4.3	4.4	4.0	4.2	4.2	4.3	4.5	4.5	4.8
Outlays												
Discretionary	2.6	2.8	4.2	4.3	4.4	4.0	4.1	4.1	4.3	4.6	4.7	4.7
Mandatory	9.3	12.4	11.0	16.1	10.7	5.8	5.0	5.0	7.9	18.4	32.0	19.0
Total	12.0	15.2	15.2	20.4	15.0	9.8	9.2	9.0	12.2	23.0	36.6	23.6
Memorandum:												
Annual Percentage Change in Discretionary Outlays		6.6	49.2	1.9	3.1	-8.5	3.1	-1.5	6.3	5.5	1.9	0.2

350-01 Reduce Federal Support for Agricultural Research and Extension Activities

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	198	129
2003	198	176
2004	198	193
2005	198	195
2006	198	195
2002-2006	990	888
2002-2011	1,980	1,863
Relative to Inflated Appropriations		
2002	204	133
2003	210	185
2004	215	208
2005	220	215
2006	226	220
2002-2006	1,075	961
2002-2011	2,296	2,148

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-01, 270-02, 270-03, 270-10, and 350-04

The Department of Agriculture (USDA) conducts and supports agricultural research and education. In particular, the Agricultural Research Service, the department's internal research arm, focuses on maintaining and increasing the productivity of the nation's land and water resources, improving the quality of agricultural products and finding new uses for them, and improving human health and nutrition. The Cooperative State Research, Education, and Extension Service (CSREES) participates in a nationwide system for planning and coordinating the agricultural research and educational programs of state institutions and USDA. CSREES also takes part in the Cooperative Extension System, a national educational network that combines the expertise and resources of federal, state, and local partners. The Economic Research Service carries out economic and other social science research and analysis for public and private decisions about agriculture, food, natural resources, and rural areas.

The 2001 appropriations for those three USDA agencies total about $2.1 billion. Reducing the funding by 10 percent would save, over the 2002-2011 period, about $1.9 billion relative to the 2001 funding level and about $2.1 billion relative to that level adjusted for inflation.

Critics argue that federal funding for agricultural research may, in some cases, replace private funding. Moreover, federal funding for some extension activities under CSREES could be reduced without undercutting the agency's basic services to farmers. Such extension activities include the Nutrition and Family Education and Youth at Risk programs, whose funding totaled $67 million under the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act for Fiscal Year 2001.

Proponents of funding for research and extension activities argue that the programs play important roles in developing an efficient farm sector. Reducing federal funding could compromise the sector's future development and its competitiveness in world markets. If the private sector assumed the burden of funding, then agricultural research—which contributes to an abundant, diverse, and relatively inexpensive food supply for U.S. consumers—could decline. Moreover, some federal grants are used to improve the health of humans, animals, and plants by funding research that promotes better nutrition or more environmentally sound farming practices. Consequently, proponents contend that if federal funding was cut back, the public might have to bear some of that cost in higher prices, forgone innovations, reduced health, and environmental degradation.

350-02 Eliminate the Foreign Market Development Cooperator Program

	Savings (Millions of dollars)	
	Budget Authority	Outlays
2002	19	19
2003	25	25
2004	28	28
2005	28	28
2006	28	28
2002-2006	128	128
2002-2011	268	268

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

150-02, 350-06, 350-09, and 370-02

The Department of Agriculture (USDA) promotes exports and international activities through the programs of the Foreign Agricultural Service (FAS). In the Foreign Market Development Cooperator Program, FAS acts as a partner in joint ventures with "cooperators," such as agricultural trade associations and commodity groups, to develop markets for U.S. exports. Eliminating funding for that program would reduce outlays by $268 million over the 2002-2011 period.

The Foreign Market Development Cooperator Program, also known as the Cooperator Program, typically promotes generic products and basic commodities, such as grains and oilseeds, but it also covers some high-value products, such as meat and poultry. Some critics of the program argue that cooperators should bear the full cost of foreign promotions because the cooperators benefit from them directly. (How much return, in terms of market development, the Cooperator Program actually generates or the extent to which it replaces private expenditures with public funds is uncertain.) Some observers also cite the possibility of duplicative services because USDA provides funding for marketing through its Market Access Program and other activities.

Eliminating the Cooperator Program, however, could place U.S. exporters at a disadvantage in international markets, depending in part on the amount of support other countries provide to their exporters. Regarding the issue of duplicative services, some advocates note that the Cooperator Program is distinct from other programs in part because it focuses on services to trade organizations and technical assistance. People concerned about U.S. exports of generic products and basic commodities consider the program useful for developing markets that could benefit the overall economy.

350-03 Reinstate Assessments on Growers, Buyers, and Importers of Tobacco

	Savings (Millions of dollars) Budget Authority	Outlays
2002	8	8
2003	29	29
2004	30	30
2005	30	30
2006	30	30
2002-2006	127	127
2002-2011	277	277

SPENDING CATEGORY:

Mandatory

The federal government aids tobacco producers by supporting domestic tobacco prices well above world-market prices. To restrict the supply of tobacco and keep prices artificially high, the tobacco program includes import restrictions, acreage allotments and marketing quotas that limit the amount of tobacco that can be grown and marketed, and price support loans that allow growers to forfeit that tobacco (which is added to government stocks) rather than repay loans if market prices are below the support price.

Higher market prices benefit about 125,000 growers and 300,000 holders of marketing quotas and allotments. Some quota holders raise tobacco themselves, and some rent their quota to others. For producers, tobacco is an important source of income, particularly in some states. The value of the 1999 tobacco crop was estimated at $2.3 billion. The crop is produced in 16 states, and about two-thirds of its acreage lies in North Carolina and Kentucky.

Tobacco is a controversial crop because of the health hazards of smoking, so federal support for producers has also been controversial. The price support program has been modified over time to reduce its costs to taxpayers, even though it does nothing to encourage tobacco use. In fact, it raises the price of tobacco products to U.S. consumers, although by only a small amount. The Department of Agriculture has estimated that the program may increase the price of a pack of cigarettes by less than 2 cents.

Because tobacco prices are supported through supply restrictions, tobacco consumers—not taxpayers—pay most of the costs of growers' benefits. If everything worked as planned, the tobacco program would have no net cost to the government every year. But unexpected market events can lead, in some years, to substantial government outlays. To maintain the no-net-cost status of the program, growers and purchasers of tobacco generally have been required to contribute to funds that reimburse the government for the program costs (other than administrative costs) that do occur, although recent legislation has relaxed that requirement for some tobacco currently under loan.

Beginning in 1991, both growers and purchasers had to pay new assessments equal to 0.5 percent of the value of sales (for a total collection of 1 percent of sales). Those assessments were not devoted to program costs; rather, they were the tobacco program's contribution to reducing the costs of all federal farm programs and the budget deficit. Those assessments and a related one on imported tobacco ended after 1998. This option would reinstate the assessments beginning with the 2002 crop. Doing so would bring in receipts of $277 million over the 2002-2011 period.

Proponents of reinstating the assessments argue that the tobacco program gives growers substantial benefits and that the assessments let taxpayers share some of those benefits. Furthermore, recent legislation provided additional benefits to certain growers, so without additional revenue the program may lose its no-net-cost status. Opponents argue that the tobacco program costs the government little, that growers and purchasers already contribute toward those costs through paying taxes, and that the original rationale for the assessments has passed.

350-04 Eliminate Mandatory Spending for the Agricultural Research Activities of the Fund for Rural America and the Initiative for Future Agriculture and Food Systems

	Savings (Millions of dollars) Budget Authority	Outlays
2002	150	24
2003	150	66
2004	0	84
2005	0	69
2006	0	42
2002-2006	300	285
2002-2011	300	300

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

270-01, 270-02, 270-03, 270-10, and 350-01

The Federal Agriculture Improvement and Reform Act of 1996 (FAIR) established the Fund for Rural America as a mandatory program to support rural communities nationwide. FAIR provided funds through fiscal year 2000. The Agricultural Research, Extension, and Education Reform Act of 1998 provided additional funds through 2003. Currently, $60 million is available for research activities of the Fund for Rural America for the 2002-2003 period.

In addition, the 1998 act created and provided mandatory funding for the Initiative for Future Agriculture and Food Systems as a competitive grant program supporting research, extension, and education activities in critical emerging areas. Administered by the Department of Agriculture's (USDA's) Cooperative State Research, Education, and Extension Service, the initiative was mandated to receive $480 million through fiscal year 2003 to target food genome research, food safety, human nutrition, alternative uses for agricultural commodities, biotechnology, and precision agriculture. Eliminating the research activities of both the Fund for Rural America and the initiative would reduce direct spending by $300 million from 2002 to 2011.

Mandatory funding is usually reserved for entitlement programs, for which funding needs may be too immediate or undisputed to warrant annual review by the Congress in the appropriation process. Critics of the program argue that agricultural research is hardly an entitlement and that research should be left where it always has been: as part of USDA's discretionary funding budget. Because providing the programs with mandatory funds may avoid the spending jurisdiction and annual review of the Appropriations Committees, critics argue that the programs do not necessarily provide funding for intended activities. In addition, they argue, existing discretionary programs can meet the goals of the agricultural research programs. Furthermore, they contend that federal funding for agricultural research may, in some cases, replace private funding.

Supporters of the programs argue that changes in agriculture have increased the need for research funding beyond that available through traditional discretionary programs. They argue that eliminating this research could compromise U.S. agriculture's future development and its competitiveness in world markets at a time when changes in commodity programs make producers' economic viability more dependent than before on world markets. They also argue that the programs are necessary to improve agricultural productivity, environmental quality, and farm income.

350-05 Limit Future Enrollment of Land in the Department of Agriculture's Conservation Reserve Program

	Savings (Millions of dollars) Budget Authority	Outlays
2002	77	77
2003	143	143
2004	250	250
2005	273	273
2006	306	306
2002-2006	1,049	1,049
2002-2011	7,632	7,632

SPENDING CATEGORY:

Mandatory

The Conservation Reserve Program promotes soil conservation, improves water quality, and provides wildlife habitat by removing land from active agricultural production. Landowners contract with the program to keep land out of production, usually for a 10-year period, in exchange for annual rental payments. Such land is referred to as "enrolled" in the program. The federal government also pays part of what farmers spend to establish approved cover crops on the land. The U.S. Department of Agriculture's (USDA's) Commodity Credit Corporation funds the program and spends about $1.5 billion per year on it. The program now has roughly 30 million acres enrolled; the law limits enrollment to a total of 36.4 million acres. The Congressional Budget Office's baseline assumes that future net enrollments of land will reach the limit by 2009. Stopping new enrollments beginning October 1, 2001, would reduce spending by $7.6 billion over the 2002-2011 period.

Some critics of the Conservation Reserve Program see it as corporate welfare—unnecessarily and inefficiently supporting farm income. Others see it as an expensive and poorly focused conservation program and believe that other uses of the money would yield greater environmental benefits. Still other critics worry about the loss of economic activity in areas where much cropland is retired. The demand for seed, fertilizer, and other farm supplies drops in such areas, hurting rural communities.

The Conservation Reserve Program enjoys widespread support, however. Landowners appreciate the payments, which often exceed the profits from continued agricultural production and are more certain. Conservationists and environmentalists recognize the program's benefits and note USDA's plans to accept the most environmentally sensitive land in future enrollments. Those plans involve special provisions for enrolling land devoted to the most effective conservation practices such as the use of filter strips, grass waterways, and riparian buffers. Studies have indicated that those and several other practices yield high returns per dollar spent in enhanced wildlife habitat, improved water quality, and reduced soil erosion. Many people, including critics of the program, recognize the need to take at least some environmentally sensitive land out of production over the long term.

350-06 Eliminate Attaché Positions in the Foreign Agricultural Service

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	29	20
2003	39	33
2004	39	38
2005	39	39
2006	39	39
2002-2006	185	169
2002-2011	380	364
Relative to Inflated Appropriations		
2002	30	20
2003	42	35
2004	43	42
2005	45	45
2006	46	46
2002-2006	206	188
2002-2011	458	437

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

150-02, 350-02, 350-09, and 370-02

U.S. agricultural attachés, located at 97 offices worldwide, provide U.S. agricultural producers and traders with information on foreign governments' policies, supply and demand conditions, commercial trade relationships, and market opportunities. That information is an integral part of the market forecasting and analysis system of the U.S. Department of Agriculture (USDA). The attachés, employed by the Foreign Agricultural Service of USDA, also represent that department in disputes and negotiations with foreign governments on agricultural issues. The attaché positions were developed to promote U.S. commodities and to help U.S. farmers, processors, distributors, and exporters adjust their operations and practices to meet world conditions. This option would eliminate the attaché positions and reduce outlays over the 2002-2011 period by $364 million relative to the 2001 funding level and $437 million relative to that level adjusted for inflation.

Opponents of the attaché positions argue that the federal government should not be collecting and distributing information that directly aids large private traders of agricultural commodities and products. Instead, they argue, private firms could collect such information. Personnel from the Department of State or Commerce could assume the attachés' other functions. Although trade is vitally important to U.S. agriculture, opponents argue that the industry no longer warrants the special treatment it receives.

Supporters of the agricultural attaché positions contend, however, that because attachés represent the U.S. government, they have more access to information than representatives of private firms would have. Supporters also maintain that if agricultural producers and traders do not receive quality agricultural information in a timely manner, the sector's responsiveness to changes in world demand for U.S. products could be compromised. Finally, USDA uses information collected by attachés in conducting its market and policy analyses. If the attachés no longer provided such information, USDA might have to purchase it or do without—which could weaken the analyses.

350-07 Reduce the Reimbursement Rate Paid to Private Insurance Companies in the Department of Agriculture's Crop Insurance Program

	Savings (Millions of dollars) Budget Authority	Outlays
2002	56	50
2003	58	58
2004	60	60
2005	61	61
2006	65	64
2002-2006	300	293
2002-2011	637	628

SPENDING CATEGORY:

Mandatory

The Federal Crop Insurance Program protects farmers from losses caused by droughts, floods, pests, and other natural disasters. Insurance policies that farmers buy through the program are sold and serviced by private insurance firms, which receive an administrative cost reimbursement according to the total amount of insurance premiums they handle. Firms also share underwriting risk with the federal government and can gain or lose depending on the value of crop losses relative to the claims made. Overall, the companies typically gain.

The General Accounting Office (GAO) has widely studied the crop insurance program, particularly the amount paid to the firms that service and sell the insurance policies. In a 1997 study, GAO concluded that the amount the program had paid those firms historically exceeded the reasonable expenses of selling and servicing the crop insurance. Partly on the basis of that information, the 105th Congress cut the reimbursement rate for the benchmark crop insurance plan from 27 percent of premiums to 24.5 percent (with comparable reductions for other plans). Crop insurance legislation passed by the 106th Congress did not change that rate. This option would further reduce the benchmark rate to 22.5 percent, resulting in savings of $628 million over the 2002-2011 period.

Arguments for cutting the reimbursement rate hinge on the belief that the 105th Congress could have cut the reimbursement rate more deeply without substantially affecting the quantity or quality of services provided to farmers. In addition to relying on GAO's analysis, proponents of further cuts point to the dramatic expansion in business that followed enactment of the Federal Crop Insurance Reform Act of 1994. Crop insurance in force for 2000 totaled about $34 billion, which is about three times the level of the early 1990s. Total premiums grew correspondingly, but because of economies of scale, the costs of selling and servicing the policies probably grew by less. Further expansion of business is expected under provisions of the Agricultural Risk Protection Act of 2000 that significantly increase government subsidies for farmers' premiums—especially at higher coverage levels with higher premiums. Therefore, proponents argue, the program could tolerate further cuts. Finally, even if cuts caused firms to curtail some services to farmers, proponents claim that the results would not be catastrophic or irreversible.

The crop insurance industry argues that further cuts would impair its ability to sell and service insurance and threaten farmers' access to insurance. If farmers lacked insurance, the industry argues, the Congress would be more likely to resort to expensive, special-purpose relief programs when disaster struck, negating any apparent savings from cutting the reimbursement rate. Moreover, crop prices lower than those assumed in GAO's 1997 study reduce the total premiums (and reimbursements) but hardly affect insurance companies' costs. Cutting reimbursement rates would further reduce companies' profits, making it harder for them to maintain the services they now provide to farmers.

350-08 Eliminate Public Law 480 Title I Sales and Limit the Secretary of Agriculture's Authority

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	135	71
2003	135	125
2004	135	132
2005	135	132
2006	135	132
2002-2006	675	591
2002-2011	1,350	1,249
Relative to Inflated Appropriations		
2002	138	72
2003	141	129
2004	143	138
2005	146	141
2006	149	144
2002-2006	717	625
2002-2011	1,506	1,386

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

150-03-A, 150-03-B, and 150-04

The U.S. Agricultural Trade Development and Assistance Act of 1954 (Public Law 480) was enacted to promote commercial exports of surplus agricultural commodities, foster foreign markets, and aid developing countries. The law included commodity sales for foreign currencies, subsidized credit, and grants.

In the 45 years since the law was passed, the P.L. 480 program may have become obsolete and inefficient. This option would eliminate sales under title I of the act beginning in 2001. It would also constrain authority provided by the Commodity Credit Corporation Charter Act of 1948 and other laws that allow the Secretary of Agriculture to use funds from the Commodity Credit Corporation or other sources to purchase and ship U.S. commodities abroad. Such constraints are necessary, some analysts believe, because without them, the Secretary of Agriculture could offset the effects of a cut in the program (a discretionary one) by using the Commodity Credit Corporation's funds or other funds (mandatory spending) to purchase and ship agricultural commodities. In fact, the Secretary used such authority in 1999 to provide more than $1 billion of food aid to Russia and other countries and in 2000 to establish a global school lunch program. Title II of P.L. 480 and section 416 of the Agricultural Act of 1949, which fund humanitarian and emergency feeding programs, would not be directly affected by this option.

This option would reduce outlays over the 2002-2011 period by $1.25 billion relative to the 2001 funding level and $1.39 billion relative to that level adjusted for inflation. The program's effectiveness in promoting agricultural exports is questionable for two reasons: exports under title I are a small portion of total U.S. agricultural exports, and the countries currently receiving those commodities are unlikely to become commercial customers. In fact, countries that receive commodities under title I are typically those in which the United States has a security or foreign policy interest rather than those likely to become commercial customers in the near term.

Providing assistance to developing countries is also a goal of the program, but critics say it may not be an efficient use of U.S. resources. Many commodities that foreign countries buy with P.L. 480 assistance are resold to generate local currency. Those funds are used in turn to support local budgets and local development. But increased supplies of food may lower prices and discourage local investment in agriculture, lower rural employment and income, and discourage the development of local stockpiles.

Supporters of title I argue that the program is a flexible, fast means of providing assistance to friendly countries. They also note that the program reduces the likelihood that agricultural surpluses will depress prices in the United States, and they stress the program's humanitarian benefits: U.S. agricultural products are exported, and hungry people are fed.

350-09 Eliminate the Market Access Program

	Savings (Millions of dollars) Budget Authority	Outlays
2002	5	5
2003	73	73
2004	90	90
2005	90	90
2006	90	90
2002-2006	348	348
2002-2011	798	798

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

150-02, 350-02, 350-06, and 370-02

The Market Access Program (MAP), formerly known as the Market Promotion Program, was authorized under the 1990 Food, Agriculture, Conservation, and Trade Act to assist U.S. exporters of agricultural products. The program has been used to counter the effects of unfair trading practices abroad, but the Uruguay Round Agreements Act of 1994 eliminated the requirement that it be used for such purposes. Payments are made to partially offset the costs of market building and product promotion conducted by trade associations, commodity groups, and some profit-making firms. On the basis of current law, the Congressional Budget Office assumes that $90 million will be allocated annually for the program. Eliminating MAP would reduce outlays by $798 million over the next 10 years.

The program has been used to promote a wide range of mostly high-value products, including fruit, tree nuts, vegetables, meat, poultry, eggs, seafood, and wine. About 40 percent of MAP's funding goes to promote brand-name products. The 1996 farm bill prohibits direct assistance from MAP to foreign companies to promote foreign-produced products or to companies not recognized as small businesses under the Small Business Act, except for cooperatives and nonprofit trade associations.

Some critics of the program argue that participants should bear the full cost of foreign promotions because they benefit directly from them. (The extent to which the program has developed markets or replaced private expenditures with public funds is uncertain.) In addition, some critics note the possibility of duplication because the Department of Agriculture provides marketing funds through the Foreign Market Development Cooperator Program, administered by the Foreign Agricultural Service, and other activities. Many people also object to spending the taxpayers' money on advertising brand-name products.

Eliminating MAP, however, could place U.S. exporters at a disadvantage in international markets, depending in part on the amount of support provided by other countries. Responding to concerns about duplication, some advocates of MAP note that the program differs from other programs partly because it focuses on foreign retailers and consumer promotions. People promoting U.S. exports of high-value products consider the program useful for developing markets and benefiting the overall economy.

370

Commerce and Housing Credit

Budget function 370 covers programs administered by the Department of Commerce, the Federal Housing Administration, and the Small Business Administration, among others. They include programs to regulate and promote commerce and provide housing credit and deposit insurance. Also included in this category are outlays for loans and other aid to small businesses and support for the government's efforts to gather and disseminate economic and demographic data. CBO estimates that discretionary outlays for function 370 will total about $3.7 billion in 2001, a decrease from the high level of 2000, which included funding for the 2000 census. (The large negative amounts for mandatory spending in the mid-1990s reflect proceeds from the resolution of failed banks and thrifts.)

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	3.9	2.8	4.2	4.1	4.0	3.9	4.1	3.1	3.1	3.8	7.1	3.0
Outlays												
Discretionary	3.8	3.4	3.4	3.7	3.4	3.7	3.5	3.4	3.2	3.5	6.4	3.7
Mandatory	63.8	72.9	7.5	-25.6	-7.6	-21.5	-14.0	-18.0	-2.2	-0.9	-3.2	-3.4
Total	67.6	76.3	10.9	-21.9	-4.2	-17.8	-10.5	-14.6	1.0	2.6	3.2	0.2
Memorandum:												
Annual Percentage Change in Discretionary Outlays		-12.6	1.0	9.7	-9.1	10.3	-6.2	-4.0	-5.3	10.6	82.5	-42.8

370-01 End the Credit Subsidy for the Small Business Administration's Major Business Loan Guarantee Programs

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	163	104
2003	163	153
2004	163	156
2005	163	156
2006	163	156
2002-2006	815	725
2002-2011	1,630	1,505
Relative to Inflated Appropriations		
2002	167	107
2003	170	159
2004	173	165
2005	176	168
2006	180	171
2002-2006	866	770
2002-2011	1,818	1,678

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

370-05

The Small Business Administration (SBA) operates several loan guarantee programs to increase small businesses' access to capital and credit. Under the Federal Credit Reform Act of 1990, the credit subsidy for those programs is the estimated net present-value cost (over the lives of the loans) of projected defaults minus fees, recoveries, and administrative costs. SBA's largest business credit programs are the general business loan guarantee, or 7(a), program; the certified development company, or 504, program; and the small business investment company (SBIC) equity capital programs. One of those programs, the certified development company loan program, now operates without a federal subsidy. Reducing the subsidy of all of the SBA's major business loan guarantee programs to zero would reduce outlays by $1.5 billion over the 2002-2011 period measured against the 2001 funding level and by about $1.7 billion measured against the 2001 funding level adjusted for inflation.

Under the 7(a) program, the SBA's largest loan program, the federal government guarantees 80 percent of the principal for business loans up to $100,000 and 75 percent of the principal for larger loans. Small business investment companies in the SBIC program (private investment firms licensed by the SBA) make equity investments and long-term loans to small firms, using their own capital supplemented with SBA-guaranteed debentures.

In 1996, the Congress amended both the Small Business Act and the Small Business Investment Act to reduce subsidy rates and improve the performance of the SBA's business loan programs. One of the most significant changes the Congress made was to increase the fees paid by loan recipients for most business loans. Those increases help to reduce program costs because the revenues from the fees cover some of the expenses when borrowers default. The Congress also cut the percentage of each loan amount that the government guarantees under the 7(a) program from about 90 percent to the current levels of about 80 percent. Reducing the guarantee rates further should induce banks to more carefully evaluate loan applications because the banks will share more responsibility for any losses from defaults. If banks use more care in approving SBA loans, the default rate should decline, and the costs to the government should decrease. Adjusting fees (and changing loan guarantee levels) to cover potential default losses could make the SBA's major business loan programs financially sound. As the subsidy rate declined to zero, the Congress would no longer have to appropriate funds to cover the government's expected losses.

Critics of this option believe the SBA's assistance aids small businesses by filling a gap in financing when banks and other traditional sources do not provide loans for the purposes, in the amounts, and with the terms required by small business borrowers. Some critics argue against increasing program fees or reducing guarantee rates because such changes would reduce access to credit for small businesses. Others argue that subsidies are not necessary because the loan programs provide the mechanism to pool risk so that the private sector will make financing available. Some supporters of this option argue, however, that the SBA's assistance serves only a tiny fraction of the nation's small businesses and that most of the programs' borrowers could obtain financing without the SBA's help.

370-02 Reduce Costs of the International Trade Administration by Eliminating Trade Promotion Activities or Charging the Beneficiaries

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	65	49
2003	259	205
2004	259	241
2005	259	259
2006	259	259
2002-2006	1,101	1,013
2002-2011	2,396	2,308
Relative to Inflated Appropriations		
2002	67	51
2003	278	219
2004	286	265
2005	294	292
2006	304	301
2002-2006	1,229	1,128
2002-2011	2,889	2,771

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

150-02, 300-05, 350-02, 350-06, 350-09, 400-05, and 400-06

RELATED CBO PUBLICATIONS:

Causes and Consequences of the Trade Deficit: An Overview (Memorandum), March 2000.

How the GATT Affects U.S. Antidumping and Countervailing-Duty Policy (Study), September 1994.

The International Trade Administration (ITA) of the Department of Commerce has four major program units: the Import Administration, which investigates anti-dumping and countervailing-duty cases; the trade development program, which assesses the competitiveness of U.S. industries and runs export promotion programs; the market access and compliance (MAC) unit, which works to unlock foreign markets for U.S. goods and services; and the U.S. and foreign commercial services, which counsel U.S. businesses on exporting. The MAC unit, and perhaps the countervailing-duty program against foreign subsidies, may be necessary to maintain public support for free-trade policies, and in some cases, they can be defended on economic grounds. The ITA's export promotion, marketing, and counseling activities could be eliminated, however, or the beneficiaries could be charged fees to cover more of the programs' costs. The ITA already charges some fees for some services, but those fees do not cover the cost of all such activities. This option would eliminate the ITA's trade promotion activities or charge the beneficiaries. Those changes would save $2.3 billion through 2011 relative to current appropriations and $2.8 billion relative to current appropriations adjusted for inflation.

Some people argue that such activities are better left to the firms and industries involved than to the ITA. Others argue that those activities might have some economies of scale, especially for small firms. If so, having one entity (the federal government) counsel exporters on foreign legal and other requirements, disseminate knowledge of foreign markets, and promote U.S. products abroad might make sense. In that case, net federal spending could be reduced by charging the beneficiaries of those programs their full costs.

Fully funding the ITA's trade promotion activities through voluntary charges may not be possible, however. For example, in many cases, promoting the products of selected firms in a given industry that are willing to pay for such promotion may be impossible without also encouraging demand for the products of other firms in that industry. In those circumstances, firms have an incentive not to purchase the services because they know that they are likely to receive the benefits whether they pay for them or not. Consequently, if the federal government wanted to charge beneficiaries for the ITA's services, it might have to require that all firms in an industry (or the industry's national trade group) decide together whether to purchase the services. If the firms decided to purchase them, all firms in the industry would be required to pay according to some equitable formula.

When beneficiaries do not pay the full costs of services, the ITA's activities effectively subsidize the industries involved. Those implicit subsidies are an inefficient means of helping the industries because they are partially passed on to foreigners in the form of lower prices for U.S. exports. Because the nation's current-account balance is determined by total saving and investment in the U.S. economy, over which the ITA has no influence, the agency's activities do not improve that balance. As a result of the changes they cause in exchange rates and other variables, some combination of reduced exports in other industries and increased imports completely offsets increases in exports resulting from the ITA's activities. Thus, the ITA's export promotion activities hurt other U.S. firms.

370-03 Eliminate the Advanced Technology Program

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	117	19
2003	146	64
2004	146	115
2005	146	137
2006	146	145
2002-2006	701	480
2002-2011	1,431	1,210
Relative to Inflated Appropriations		
2002	120	19
2003	153	66
2004	156	121
2005	159	146
2006	163	156
2002-2006	751	508
2002-2011	1,618	1,347

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

370-04

The Omnibus Trade and Competitiveness Act of 1988 established the Advanced Technology Program (ATP) within the Commerce Department's National Institute of Standards and Technology. This option would eliminate the ATP, whose objective is to further the competitiveness of U.S. industry by helping convert discoveries in basic research more quickly into technological advances with commercial potential. The program awards research and development (R&D) grants on the basis of merit to individual companies, independent research institutes, and joint ventures. The grants support research in generic technologies that have applications for a broad range of products as well as precompetitive research (preceding product development). Implementing this option would save, over the 2002-2011 period, $1.2 billion relative to the 2001 funding level and $1.3 billion relative to that level adjusted for inflation.

The ATP has awarded 522 grants from its inception through 2000. The total funding committed to the research projects was $3.3 billion, of which the program paid roughly half. The ATP's grants are limited to $2 million over a three-year period when awarded to a single firm, but they have no dollar limit when awarded to a joint venture over a period of up to five years. Joint ventures must pay at least half of the R&D costs of each project, however, which helps ensure a project's commercial viability.

Starting in 1998, the ATP explicitly required applicants to disclose their prior efforts to secure private financing. ATP officials also made the likelihood of spillover benefits part of the selection criteria. The ATP was responding to evaluations done by the General Accounting Office (GAO), which found that almost two-thirds of applicants had not even sought private capital before applying to the ATP and that half of the proposals the ATP rejected were subsequently funded privately. GAO found that the changes in the selection process, although positive, were insufficient or difficult to implement and that the process relied on the self-interested applicants for crucial information.

Opponents of the program argue that private investors are better able than the federal government to decide which research efforts should be funded. Citing the GAO survey, critics argue that even when the federal government chooses "a winner," it is just as likely as not to be displacing private capital. The U.S. venture capital markets are the best developed in the world, do an effective job of funding new ideas, and focus on many of the same research areas as the ATP, critics argue. Furthermore, venture capital funds have grown more than tenfold since the ATP was conceived. In the first three quarters of 2000, venture capital funds raised $76 billion, about 500 times the size of the ATP. That size differential increases the odds that the ATP is funding work that might have been funded by venture capital firms.

Supporters of the program argue that surveys of the ATP's award recipients indicate that the awards have accelerated the development and commercialization of advanced technology by two years or more in the majority of planned commercial applications. In addition, those surveys reveal that recipients are more willing to tackle high-risk technology development projects as a result of their grants, presumably increasing both the amount and the breadth of the R&D funded.

370-04 Eliminate the Manufacturing Extension Partnership and the National Quality Program

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	88	16
2003	110	64
2004	110	93
2005	110	106
2006	110	110
2002-2006	528	389
2002-2011	1,078	939
Relative to Inflated Appropriations		
2002	91	17
2003	115	66
2004	118	98
2005	121	113
2006	123	120
2002-2006	568	414
2002-2011	1,227	1,053

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

300-15 and 370-03

The Manufacturing Extension Partnership (MEP) and the National Quality Program reside in the National Institute of Standards and Technology. MEP consists primarily of a network of manufacturing extension centers that assist small and midsize firms by providing expertise in the latest management practices and manufacturing techniques and other knowledge. The nonprofit centers are not owned by the federal government but are partly funded by it. The National Quality Program consists mainly of the Malcolm Baldrige National Quality Award, which is given to firms for achievements in quality. This option would eliminate MEP and the National Quality Program, saving $939 million through 2011 relative to current appropriations and about $1.1 billion relative to current appropriations adjusted for inflation.

Proponents of MEP point to the economic importance of small and midsize firms, which produce more than half of U.S. output and employ two-thirds of U.S. manufacturing workers. Small firms, they argue, often face limited budgets, a lack of expertise, and other barriers to obtaining the information that MEP provides. Those circumstances and the substantial reliance of larger firms on small and midsize companies for supplies and intermediate goods lead proponents to contend that MEP is needed for U.S. productivity and international competitiveness.

Opponents may question the need for the government to provide such technical assistance. Small firms thrived long before MEP began in 1989, in part because other sources of expertise were available. Many professors of business, science, and engineering are also consultants to private industry, and other ties between universities and private firms facilitate the transfer of knowledge. In fact, some of the centers MEP subsidizes predate the program.

Furthermore, MEP cannot improve the competitiveness of the economy as a whole. The competitiveness of particular firms helped by MEP may improve, resulting in more exports or fewer competing imports. However, those changes in trade cause the dollar to rise in foreign exchange markets, decreasing the competitiveness of other U.S. firms. Overall, the balance of trade is not affected.

Finally, one may question MEP's positive effect on the economy's productivity. Federal spending for MEP is a subsidy for the firms that the program helps. In most cases, subsidies promote inefficiency by allowing inefficient firms to remain in business, tying up capital, labor, and other resources that would otherwise be used more productively elsewhere. In the case of businesses that increase their exports, part of the subsidy is likely to be passed on to foreign customers in the form of lower prices.

Like MEP advocates, defenders of the National Quality Program argue that it promotes U.S. competitiveness. However, as with the MEP, the National Quality Program can at best improve the competitiveness of some U.S. firms at the expense of others. It cannot make the economy as a whole more competitive. Opponents may argue that businesses need no government incentive to maintain quality—the threat of lost sales is sufficient. Furthermore, winners of the Baldrige Award often mention it in their advertising, which means they value it. If so, they should be willing to pay contest entry fees large enough to eliminate the need for federal funding.

370-05 Eliminate the Minority Business Development Agency

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	22	11
2003	27	23
2004	27	27
2005	27	27
2006	27	27
2002-2006	130	115
2002-2011	265	250
Relative to Inflated Appropriations		
2002	22	11
2003	29	24
2004	29	29
2005	30	30
2006	31	30
2002-2006	141	124
2002-2011	306	286

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

370-01

The Minority Business Development Agency (MBDA) of the Department of Commerce plays the lead coordinating role in all federal programs for minority business development. Through public/private partnerships, the MBDA provides a variety of direct and indirect business services. It provides management and technical assistance, expands domestic and international marketing opportunities, and collects and disseminates business information. The agency also provides support for advocacy, research, and technology to reduce "information barriers." This option would eliminate the MBDA, saving $250 million over the 2002-2011 period relative to current appropriations and $286 million relative to current appropriations adjusted for inflation.

The arguments for and against the MBDA mirror in part those of the larger debate over affirmative action. Proponents contend that minority groups, especially African Americans, have historically been, and continue to be, hindered by pervasive discrimination. They argue that such discrimination leads to financial and educational disadvantage and a lack of experience, which reduces the competitiveness of minority groups in the business world. Discrimination also hinders minority businesses in their task of developing business relationships with suppliers and customers. Minorities, according to the program's advocates, need a helping hand to compensate for those handicaps.

According to opponents, discrimination has substantially declined and that which remains is best fought by enforcing civil rights laws in the courts. Although, on average, African Americans and certain other minority groups are economically and educationally disadvantaged in comparison with whites, in many individual instances, the reverse is true: individual African Americans or members of other minorities may be quite wealthy and educated and are competing with individual whites who are not. In such cases, opponents point out, a desire to help the disadvantaged would argue for helping the white person—not the minority group member. It is unfair, according to that argument, to help current-generation minority individuals at the expense of current-generation whites simply because previous generations of whites benefited from discrimination against previous generations of minorities. Opponents contend that such help should be limited to remedies for specific acts of illegal discrimination that have been proved in court or to general help for anyone who is disadvantaged, regardless of race. Moreover, if the MBDA was eliminated, the Small Business Administration would continue to provide assistance to small businesses in general.

370-06 Charge a User Fee on Commodity Futures and Options Contract Transactions

	Savings (Millions of dollars) Budget Authority	Outlays
2002	68	68
2003	68	68
2004	68	68
2005	68	68
2006	68	68
2002-2006	340	340
2002-2011	680	680

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection, a mandatory offsetting receipt, or a revenue depending on the specific language of the legislation establishing the fee.

The Commodity Futures Trading Commission (CFTC) administers the amended Commodity Exchange Act of 1936. The purpose of the commission is to foster competitive and financially sound commodity futures and options markets and to ensure the integrity of those markets and protect participants from abusive and fraudulent trade practices. A fee on transactions overseen by the CFTC could cover the agency's operating costs. Such a fee, collected by the CFTC, would be similar to one now imposed on securities exchanges to cover the operating costs of the Securities and Exchange Commission (SEC).

A per-contract transaction fee could be imposed and remitted quarterly and adjusted periodically so that the money collected equaled the CFTC's cost of operation. Meeting the CFTC's operating expenses of $680 million over the 2002-2011 period would require a nominal fee of around 10 cents per contract, if the number of contracts traded annually over the period remained near the number traded in 1999. If authorizing legislation established the fee but appropriation language triggered its collection, the fee would then be classified as an offsetting collection.

The main arguments for the fee are based on the principle that users of government services should pay for those services. Participants in transactions that the CFTC regulates, rather than general taxpayers, are seen as the main beneficiaries of the agency's operations and therefore should pay a fee, according to proponents. Furthermore, the precedent for charging user fees has already been established by the SEC and other federal financial regulators, such as the Office of Thrift Supervision and the Office of the Comptroller of the Currency. Considerations of equity and fairness suggest that not charging a comparable fee to support the CFTC's operations could give futures traders an unfair advantage over securities traders.

Arguments against the fee are that it would be an unnecessary tax on those who use U.S. futures and options exchanges and that it would make those exchanges less efficient and less competitive. Users might try to avoid the fee by limiting or shifting transactions to activities that are exempt from charges, which could conceivably cause some market participants to desert U.S. exchanges for foreign exchanges. Major competing foreign exchanges, however, already charge transaction fees. Even with a nominal fee, U.S. futures exchanges might still have a cost advantage over their major foreign competitors.

370-07 Charge All Banks and Thrifts Deposit Insurance Premiums

	Added Receipts (Millions of dollars)
2002	1,800
2003	1,800
2004	2,000
2005	1,600
2006	1,100
2002-2006	8,300
2002-2011	13,100

SPENDING CATEGORY:

Mandatory offsetting receipts

Federal deposit insurance protects accounts up to $100,000 in the event of a bank's failure, and the Federal Deposit Insurance Corporation Improvement Act of 1991 authorized the Federal Deposit Insurance Corporation (FDIC) to levy risk-based premiums on banks to cover the cost of that insurance. However, the Deposit Insurance Fund Act of 1996 limited the FDIC's ability to charge risk-based premiums. Currently, deposit insurance premiums are assessed on about 7 percent of all banks and thrifts; the remainder pay nothing for deposit insurance even though they pose some risk of loss for the government. This option would apply to banks and thrifts the FDIC's rate schedule for banks that was in effect before 1996; as a result, the vast majority of institutions that are currently not paying deposit insurance premiums would pay an annual premium of 4 basis points (4 cents per $100 of deposits) per year. This option would increase receipts to the government by $1.8 billion in 2002, $8.3 billion over five years, and $13.1 billion over 10 years.

The Deposit Insurance Fund Act of 1996 stipulated that when the accumulated reserves of a deposit insurance fund exceeds 1.25 percent of insured deposits, the FDIC is prohibited from charging premiums of all but the riskiest institutions. The risk classification of a bank or thrift is based on the amount of capital held, the quality of its assets, the effectiveness of its management, and other factors. That target level of 1.25 percent of insured deposits has been exceeded for the past five years for the Bank Insurance Fund (and for the past three years for the Savings Association Insurance Fund). However, the Congressional Budget Office projects that, under current law, the accumulated insurance reserves will fall below the 1.25 percent target balance in 2005, largely because of growing deposits in banks that currently pay no premiums. Under the 1996 act, the FDIC must raise rates for all banks to an average of 23 basis points when that happens. The FDIC's current schedule of insurance premiums ranges from zero to 27 basis points.

There are several rationales for charging all banks and thrifts some deposit insurance premium even when insurance funds' reserves exceed 1.25 percent of insured deposits. First, that target level of reserves bears no relation to expected losses. That level of reserves is less than half of the deposit insurance funds' losses from 1989 to 1992. Second, even institutions in the best risk category pose some risk of failure over time and consequently should pay some premium, just as private insurers impose some premium on even the best risks. Third, recent experience indicates that some failures occur abruptly from risks that cannot be easily quantified or tracked, such as fraud or trading losses by rogue traders.

A disadvantage of this option is that the 4-basis-point premium, which would be paid by most institutions, is only a crude approximation of the risks they pose. Some would be charged too much and some too little. Ideally, a more accurate risk-based system of premiums, including some charge to the least risky institutions, could be reinstated. Aligning the prices of insurance more closely with risks for the vast majority of insured institutions would shift the cost of risk taking from the government back to the depositories.

Opponents of the premium hike contend that the current level of reserves provides ample protection to taxpayers. They believe that a strengthened regulatory regime and better risk-management practices make a repeat of the bank and thrift crisis highly unlikely. In addition, banks and thrifts may pass the cost of deposit insurance on to borrowers and depositors. To the extent that depositors undervalue FDIC insurance, banks might be put at a competitive disadvantage in attracting deposits compared with uninsured substitutes such as money market mutual funds.

370-08 Require All Government-Sponsored Enterprises to Register with the Securities and Exchange Commission

	Added Receipts (Millions of dollars)
2002	287
2003	291
2004	281
2005	290
2006	297
2002-2006	1,446
2002-2011	2,023

SPENDING CATEGORY:

Most of the additional receipts would be revenues; a portion of the fees would be offsetting collections credited against discretionary spending.

RELATED OPTION:

920-03

RELATED CBO PUBLICATIONS:

Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac (Study), May 1996.

Controlling the Risks of Government-Sponsored Enterprises (Study), April 1991.

Government-sponsored enterprises (GSEs) are private financial institutions chartered by the federal government to support the flow of funds to agriculture, housing, and higher education. GSEs achieve their public purposes by borrowing on the strength of an implicit federal guarantee of their debt obligations. The implicit guarantee lowers GSEs' cost of borrowing, conveying subsidies that give them a competitive advantage in financial markets. The federal government also explicitly subsidizes four GSEs—Fannie Mae, Freddie Mac, the Federal Home Loan Bank System, and the Farm Credit System—by exempting them from the registration requirements of the Securities Act of 1933. That statute requires all corporations issuing stock or debt securities with maturities of more than nine months to register such offerings with the Securities and Exchange Commission (SEC), disclose uniform information about the securities, and pay registration fees. A fifth enterprise, Farmer Mac, is not exempt from registering with the SEC. In 1992, the Department of the Treasury, the Federal Reserve Board, and the SEC advocated requiring the four GSEs that are now exempt to register their securities with the SEC. Implementing that recommendation would save $287 million in 2002, $1.4 billion over five years, and $2.0 billion through 2011.

Requiring firms to register public securities with the SEC protects investors by ensuring full disclosure of uniform financial information. GSEs were originally exempted from the requirement in part to relieve them of the costs of registering until they became accepted names in the marketplace. That rationale no longer applies: the four exempt GSEs are well known in financial markets. Repealing the exemption would not impose significant additional administrative costs on those GSEs because registration can be done electronically. Moreover, repealing the exemption would reduce the competitive advantage that the enterprises have over other firms that finance loans by issuing debt or mortgage-backed securities. (Although bank securities are exempt from the registration requirements of the 1933 law, the securities of bank holding companies and all mortgage-backed securities issued by non-GSEs are not.) A more level playing field would probably lead to a more efficient allocation of credit.

To register with the SEC, each of the four GSEs would pay about 2.5 cents per $100 in securities it issued in 2002 (about 2.5 basis points). SEC registration fees are scheduled to decline gradually under current law and will be less than 1 basis point in 2007 and later years. Competition from wholly private firms and between the enterprises would limit the GSEs' ability to recoup the cost of paying registration fees by raising the interest rates on the loans they finance. Fully absorbing the costs of registration would have little effect on either the enterprises' profits or the interest rates paid by the borrowers they serve. If Fannie Mae absorbed the full costs of registering its securities, for example, its after-tax return on equity would probably decline by less than 2 percentage points. But if Fannie Mae and Freddie Mac lowered the prices they pay for the home mortgages they buy to cover the full costs of registering securities issued to finance such loans, the origination fees paid by homeowners having loans with an initial balance of $150,000 would rise by less than $38.

370-09 Eliminate New Funding for the Rural Rental Housing Assistance Program

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	56	3
2003	56	29
2004	56	43
2005	56	54
2006	56	55
2002-2006	280	184
2002-2011	560	459
Relative to Inflated Appropriations		
2002	57	3
2003	58	29
2004	59	44
2005	61	56
2006	62	59
2002-2006	297	191
2002-2011	624	502

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

600-02

The Section 515 housing program, administered by the Rural Housing Service (RHS), provides low-interest mortgage loans to developers of multifamily rental projects in rural areas. Those mortgages typically have credits that reduce the effective interest rate to 1 percent and, in turn, lower rental costs for Section 515 tenants.

Assisted tenants pay rent equal to the greater of 30 percent of their adjusted income or the basic rent. (The basic rent for each unit consists of a proportionate share of the amortization costs of the 1 percent mortgage and the project's operating expenses.) The owner of the housing project keeps the basic rent, and the RHS collects any payments above it. Many of the poorest tenants receive additional federal subsidies through the Rural Rental Assistance Payments program that reduce their rent payments to 30 percent of their income.

Eliminating all new commitments for assistance under the Section 515 program would reduce federal outlays over the 2002-2011 period by $459 million relative to current appropriations and $502 million relative to current appropriations adjusted for inflation.

Even with this reduction in federal spending, turnover among current project residents would ensure that the program would help some new income-eligible families each year. However, the option would reduce the proportion of rural families the program can help even as the number of eligible families continues to grow. Moreover, eliminating new funding for the program would slow the growth in the supply of standard-quality, low-income rental units in rural areas.

400

Transportation

Budget function 400 covers most programs of the Department of Transportation as well as aeronautical research by the National Aeronautics and Space Administration. It supports programs that aid and regulate ground, air, and water transportation, including grants to states for highways and airports and federal subsidies for Amtrak. CBO estimates that total outlays for function 400 will be $51.6 billion in 2001. Almost all of that amount is classified as discretionary spending. (Funding for most transportation programs is provided by mandatory contract authority.) Spending under function 400 has increased significantly since the early 1990s.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	13.5	13.7	15.0	14.0	15.7	12.5	13.6	14.5	16.0	13.7	15.2	19.0
Outlays												
Discretionary	27.9	29.3	31.5	33.3	36.0	37.1	37.1	38.4	38.3	40.6	44.8	49.7
Mandatory	1.6	1.8	1.9	1.7	2.1	2.3	2.5	2.3	2.1	1.9	2.1	2.0
Total	29.5	31.1	33.3	35.0	38.1	39.4	39.6	40.8	40.3	42.5	46.9	51.6
Memorandum:												
Annual Percentage Change in Discretionary Outlays		5.0	7.5	5.6	8.3	2.9	0	3.7	-0.4	6.0	10.3	10.9

400-01 Eliminate Federal Subsidies for Amtrak

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	0	0
2003	521	208
2004	521	521
2005	521	521
2006	521	521
2002-2006	2,084	1,771
2002-2011	4,689	4,376
Relative to Inflated Appropriations		
2002	0	0
2003	543	217
2004	553	547
2005	564	557
2006	575	568
2002-2006	2,235	1,889
2002-2011	5,276	4,895

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

400-03, 400-07, and 400-08

When the Congress established the National Railroad Passenger Corporation, commonly known as Amtrak, in 1970, it anticipated providing subsidies for only a limited time, until Amtrak could become self-supporting. By 1999, however, Amtrak had consumed more than $20 billion in federal subsidies. In addition to subsidies made through annual appropriations, the Congress gave Amtrak $2.2 billion in the form of tax credits under the Taxpayer Relief Act of 1997. That money was to be used for investments that would help turn Amtrak around. Further, the Amtrak Reform and Accountability Act of 1997 requires that Amtrak be self-supporting on an operational basis by the end of 2002.

This option would eliminate all federal subsidies for Amtrak by the end of 2002. Thus, Amtrak would have to finance its capital investments without federal assistance. To help make up for that loss of federal funding, the Congress could authorize states to use federal-aid highway funds for Amtrak. This option would save, over the 2002-2011 period, $4.4 billion relative to current appropriations and $4.9 billion relative to current appropriations adjusted for inflation.

Proponents of eliminating federal subsidies contend that Amtrak should be self-supporting, as initially envisioned. Without federal subsidies, Amtrak would have to focus on services that have the greatest potential for financial success, such as the Metroliner's high-speed service along the congested corridor between Washington, D.C., and New York City, where passengers could pay the full cost of the service. Amtrak would be forced to continue to improve its efficiency. Some who favor eliminating subsidies also claim that it is unfair for the federal government to subsidize business travelers, who make up a substantial share of Amtrak passengers in congested corridors, and vacationers with high income.

Opponents of cutting subsidies note that subsidizing rail service in congested areas may be justified as a way of lessening the congestion of highways, airports, and airways and its attendant costs. They also say that reducing federal support would lead Amtrak to cancel service on lightly traveled routes and that passengers in those areas might not have alternative transportation available. Moreover, improving service in some corridors could strengthen the national passenger rail system by providing links to better-performing routes.

400-02 Eliminate the Essential Air Service Program

	Savings (Millions of dollars) Budget Authority	Outlays
2002	36	22
2003	36	36
2004	36	36
2005	36	36
2006	36	36
2002-2006	180	166
2002-2011	360	346

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

300-14 and 400-03

The Essential Air Service (EAS) program was created by the Airline Deregulation Act of 1978 to continue air service to communities that had received federally mandated air service before deregulation. The program provides subsidies to air carriers serving small communities that meet certain criteria. Subsidies currently support air service to about 115 U.S. communities, including 30 in Alaska (for which separate rules apply). The number of passengers served annually has fluctuated in recent years, as has the subsidy per passenger, which has ranged from $6 to $400. The Congress has directed that such subsidies not exceed $200 per passenger unless the community is more than 210 miles from the nearest large or medium-sized hub airport. This option would eliminate the EAS program, saving $346 million in mandatory outlays from 2002 to 2011.

Critics of the EAS program contend that the subsidies are excessive, providing air transportation at a high cost per passenger. They also maintain that the program was intended to be transitional and that the time has come to phase it out. If states or communities derive benefits from service to small communities, the states or communities could provide the subsidies themselves.

Supporters of the subsidy program believe that it prevents the isolation of rural communities that would not otherwise receive air service. (Subsidies are available for service to communities only if they are 70 miles or more from a large or medium-sized hub airport, except in Alaska and Hawaii.) Because the availability of airline transportation is an important ingredient in the economic development of small communities, without it some towns might lose a sizable portion of their economic base, proponents claim.

400-03 Eliminate Grants to Large and Medium-Sized Hub Airports

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	1,408	239
2003	1,408	831
2004	1,408	1,140
2005	1,408	1,281
2006	1,408	1,352
2002-2006	7,040	4,843
2002-2011	15,488	11,883
Relative to Inflated Appropriations		
2002	1,440	245
2003	1,468	854
2004	1,497	1,188
2005	1,526	1,355
2006	1,556	1,453
2002-2006	7,487	5,095
2002-2011	15,727	13,087

SPENDING CATEGORY:

Budget authority is mandatory.
Outlays are discretionary.

RELATED OPTIONS:

400-01, 400-02, 400-07, and 400-08

RELATED CBO PUBLICATION:

Paying for Highways, Airways, and Waterways: How Can Users Be Charged? (Study), May 1992.

Under the Airport Improvement Program (AIP), the Federal Aviation Administration (FAA) provides grants to airports for expanding runways, improving safety and security, and making other capital investments. Over the period from 1982 to 1997, nearly 44 percent of the AIP's funding went to large and medium-sized hub airports—the 70 or so airports that together account for nearly 90 percent of passenger boardings. This option would eliminate the AIP's funding for those airports but would continue grants to smaller airports at levels consistent with those of 2001, assuming that smaller airports will receive about 56 percent of the $3.2 billion made available in 2001, or about $1.8 billion.

AIP funding is subject to distinctive budgetary treatment. The program's budget authority is provided in authorization acts as contract authority, which is a mandatory form of budget authority. The spending of contract authority is subject to obligation limitations, which are contained in appropriation acts. Therefore, the resulting outlays are categorized as discretionary. This option assumes that both budget authority and obligation limitations would be reduced, saving $11.9 billion over the 2002-2011 period relative to current appropriations and $13.1 billion relative to current appropriations adjusted for inflation.

Supporters of this option maintain that larger airports do not need federal funding and that federal grants simply substitute for funds that could be raised from private sources. Because they serve many passengers, those airports generally have been able to finance investments through bond issues and through passenger facility charges and other user fees. Smaller airports may have more difficulty raising funds for capital improvements, although some have been quite successful in tapping the same sources of funding as their larger counterparts. This option would focus federal spending on airports that appear to have the fewest alternative sources of funding.

Those who support continuing federal grants to larger airports argue that the controls exerted by the FAA as conditions of receiving aid ensure that the airports will continue to make investment and operating decisions that promote a safe and efficient aviation system.

400-04 Increase User Fees for FAA Certificates and Registrations

	Added Receipts (Millions of dollars)
2002	4
2003	4
2004	4
2005	4
2006	4
2002-2006	20
2002-2011	40

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection or a mandatory offsetting receipt depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

300-09, 300-10, 400-05, and 400-06

The Federal Aviation Administration (FAA) runs a large regulatory program to ensure safe air travel. It oversees and regulates the registration of aircraft, licensing of pilots, issuance of medical certificates, and other similar activities. The FAA issues most licenses and certificates free of charge or at prices well below its costs. For example, the current fee for registering an aircraft is $5, but the FAA's cost of providing the service is closer to $30. The FAA estimates the cost of issuing a pilot's certificate to be $10 to $15, but the agency does not charge for the certificates. Imposing fees to cover the costs of the FAA's regulatory services could increase receipts by an estimated $40 million over the 2002-2011 period. Net savings could be somewhat smaller if the FAA needed additional resources to develop and administer the fees.

The Drug Enforcement Assistance Act of 1988 authorizes the FAA to impose several registration fees as long as they do not exceed the agency's costs for providing the services. For general aviation, the law allows fees of up to $25 for aircraft registration and up to $12 for pilots' certificates (plus adjustments for inflation). Setting higher fees would require additional legislation.

Increasing regulatory fees might burden some aircraft owners and operators. That effect could be mitigated by setting registration fees according to the size or value of the aircraft rather than according to the FAA's cost. But the FAA's fees based on the cost of service would be comparable with automobile registration fees and operators' licenses and thus would probably be modest, especially when compared with the total cost of owning an airplane.

400-05 Establish Marginal Cost-Based Fees for Air Traffic Control Services

	Added Receipts (Millions of dollars)
2002	2,000
2003	2,000
2004	2,000
2005	2,000
2006	2,000
2002-2006	10,000
2002-2011	20,000

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection or a mandatory offsetting receipt depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

300-05, 300-09, 300-10, 300-12, 370-02, 400-04, and 400-06

RELATED CBO PUBLICATION:

Paying for Highways, Airways, and Waterways: How Can Users Be Charged? (Study), May 1992.

The Federal Aviation Administration (FAA) operates the air traffic control (ATC) system, which serves commercial air carriers, the military, and such smaller users as air taxis and operators of private corporate and recreational aircraft. Traffic controllers in airport towers, terminal radar approach control facilities (TRACONs), and air route traffic control centers (ARTCCs) help guide aircraft safely as they taxi to the runway, take off, fly through designated airspace, land, and taxi to the airport gate. Other ATC services include flight service stations that provide weather data and other information useful to small-aircraft operators.

This option would impose fees for ATC services that reflect the FAA's marginal costs of providing the services. The marginal costs of a flight equal the costs of every ATC service (or contact) provided for that flight. For example, a commercial flight from New York to San Francisco entails contacts with two airport towers, two TRACONs, and seven ARTCCs. Under this option, the airline would pay the sum of the marginal costs of those contacts. A 1997 FAA study estimated total marginal costs to be about $2 billion a year.

Fees based on marginal costs would affect different types of airline operations differently. Carriers mainly using hub-and-spoke networks would probably face higher fees than those providing nonstop origin-to-destination flights because of differences in the number of contacts with towers, TRACONs, and ARTCCs.

Imposing fees for marginal costs would encourage efficient use of the ATC system. Noncommercial users might reduce their use of ATC services, freeing controllers for other tasks and increasing the system's overall capacity. By analyzing the pattern of revenues from user fees, FAA planners could better decide on the amount and location of additional investments in the ATC system, which would make it more efficient.

The main argument against this option is that it would raise the cost of ATC services to users. Such a move could weaken the financial condition of some commercial air carriers.

400-06 Impose a User Fee to Cover the Costs of the Federal Railroad Administration's Rail Safety Activities

	Added Receipts (Millions of dollars)
2002	76
2003	76
2004	76
2005	76
2006	76
2002-2006	380
2002-2011	760

SPENDING CATEGORY:

This fee could be classified as a discretionary offsetting collection or a mandatory offsetting receipt depending on the specific language of the legislation establishing the fee.

RELATED OPTIONS:

300-10, 300-12, 370-02, 400-04, and 400-05

The function of the Federal Railroad Administration's (FRA's) rail safety activities is to protect railroad employees and the public by ensuring the safe operation of passenger and freight trains. Field safety inspectors are responsible for enforcing federal safety regulations and standards. Other functions include issuing standards, procedures, and regulations; administering post-accident and random drug testing of railroad employees; providing technical training; and managing highway grade-crossing projects.

Railroad safety fees, which had been authorized in the Omnibus Budget Reconciliation Act of 1990, expired in 1995. Before 1995, railroads were subject to those fees, which covered the safety enforcement and administrative costs of carrying out the FRA's mandated safety responsibilities. Those fees offset a portion of federal spending on safety programs.

This option would impose new user fees to offset the costs of the FRA's rail safety activities—totaling $760 million over 10 years. Those in favor of user fees contend that the specific recipients of government services should bear the costs. The user fees would relieve general taxpayers of the burden of supporting the FRA's rail safety activities.

People who oppose having users pay for the services contend that the general public is the main beneficiary of the FRA's rail safety activities. Critics of this option also note that, apart from businesses in the pipeline industry, no other freight or transportation businesses pay user fees for federal services that promote safety.

400-07 Eliminate Funding for "High-Priority" Highway Projects

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	1,637	199
2003	1,637	663
2004	1,637	1,095
2005	1,637	1,340
2006	1,637	1,445
2002-2006	8,185	4,742
2002-2011	16,370	12,434
Relative to Inflated Appropriations		
2002	1,673	203
2003	1,707	682
2004	1,740	1,137
2005	1,773	1,409
2006	1,808	1,545
2002-2006	8,701	4,976
2002-2011	18,273	13,639

SPENDING CATEGORY:

Budget authority is mandatory.
Outlays are discretionary.

RELATED OPTIONS:

400-01, 400-03, and 400-08

A portion of the federal-aid highway program is devoted to "high-priority" projects, specific ones designated by the Congress as especially worthy of funding. In authorizing $171 billion in funding for the federal-aid highway program over the 1998-2003 period, the Transportation Equity Act for the 21st Century (TEA-21) designated nearly $9.4 billion for 1,851 high-priority projects. For those projects, in 2000 the Congress provided nearly $1.7 billion in TEA-21 funding and added $90 million in budget authority tied to increases in revenues from fuel taxes and other taxes on highway users. The authorized federal shares of the high-priority projects range from $15,000 to $134 million. This option would eliminate funding for them.

The budgetary treatment of the federal-aid highway program is unusual. Budget authority is provided in authorization acts as contract authority, which is a mandatory form of budget authority. The spending of contract authority is subject to obligation limitations, which are contained in appropriation acts. Therefore, the resulting outlays are classified as discretionary. In order to achieve budgetary savings, this option would require modifying TEA-21 to cut spending authority by an amount equal to that provided for the high-priority projects. This option assumes that both budget authority and obligation limitations are reduced, saving $12.4 billion over the 2002-2011 period relative to current appropriations and $13.6 billion relative to current appropriations adjusted for inflation.

For the bulk of the federal-aid program, states set priorities and choose projects within certain broad categories established by the federal government. Critics of the high-priority projects contend that Congressional earmarking subverts the states' processes of establishing priorities for highway spending. If those projects were so important, the argument goes, the states would have included them in their transportation plans, and they would receive funding under the normal ranking processes. Moreover, annual federal aid to states for highways surged under TEA-21—from about $20 billion in 1997 to $30 billion in 2000—thereby giving states the resources to fund more projects.

Supporters of earmarking respond that the states' project-ranking models do not necessarily include all of the important factors (or give them sufficient weight) in setting overall priorities. Members of Congress, who are in touch with the needs of their states and districts, may balance the process by designating exceptional projects that merit consideration. Those projects may serve special purposes, such as providing economic aid for depressed regions.

400-08 Reduce Federal Aid for Mass Transit

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	1,058	116
2003	1,058	413
2004	1,058	656
2005	1,058	868
2006	1,058	1,016
2002-2006	5,290	3,069
2002-2011	10,580	8,304
Relative to Inflated Appropriations		
2002	1,081	119
2003	1,102	424
2004	1,124	681
2005	1,145	910
2006	1,167	1,079
2002-2006	5,619	3,213
2002-2011	11,794	9,089

SPENDING CATEGORY:

Budget authority includes mandatory contract authority specified in law. Outlays are discretionary.

RELATED OPTIONS:

400-01, 400-03, and 400-07

RELATED CBO PUBLICATION:

Paying for Highways, Airways, and Waterways: How Can Users Be Charged? (Study), May 1992.

Under the "New Starts" program, the Department of Transportation provides for the construction of new rail and other fixed-guideway systems and extensions of existing systems. For 2001, the Congress provided $1,058 million for the program. This option would eliminate the New Starts program, although state and local governments could still use federal aid distributed by formula grants for new rail projects. In 2001, the federal government provided $3.3 billion in formula funding for a wide variety of transit projects.

The budgetary treatment of transit funding is complex. A portion of the budget authority for the New Starts program is provided in authorization acts as contract authority, which is a mandatory form of budget authority. The spending of contract authority is subject to obligation limitations, which are contained in appropriation acts. Therefore, the resulting outlays are categorized as discretionary. The remainder of the budget authority is provided in appropriation acts and is considered discretionary. This option assumes that discretionary budget authority, contract authority, and obligation limitations are all reduced, saving $8.3 billion over the 2002-2011 period relative to current appropriations and $9.1 billion relative to current appropriations adjusted for inflation.

Critics of funding for the New Starts program argue that new rail transit systems tend to provide less value per dollar spent than bus systems. Bus systems require much less capital, and they are more flexible in their ability to adjust schedules and routes to meet changing needs. Moreover, critics contend that letting the federal government dictate how communities should spend federal aid for transit is inappropriate and inefficient because local officials know their needs and priorities better than federal officials do.

Supporters of federal aid for mass transit in general and rail systems in particular contend that the suburban sprawl resulting when families and businesses move out of central cities leads to increasing congestion and pollution. Building additional roads will not solve the problem but only leads to greater decentralization and sprawl, they argue. New rail transit systems, on the other hand, can help channel future development into corridors where public transportation is available, as companies and residential developers locate where they can attract employees by offering easy and reliable access to the workplace.

450

Community and Regional Development

Budget function 450 includes programs that support the development of physical and financial infrastructure intended to promote viable community economies. It covers certain activities of the Department of Commerce and the Department of Housing and Urban Development. This function also includes spending to help communities and families recover from natural disasters and spending for the rural development activities of the Department of Agriculture, the Bureau of Indian Affairs, and other agencies. CBO estimates that in 2001, discretionary outlays for function 450 will be $12 billion. Such spending for community and regional development has almost doubled from the levels of the early 1990s.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	7.3	5.8	11.3	9.6	15.3	12.0	11.6	13.0	10.3	11.0	13.7	11.6
Outlays												
Discretionary	7.3	6.1	6.4	8.4	10.8	10.1	10.4	10.7	10.1	11.9	11.4	12.0
Mandatory	1.3	0.7	0.5	0.8	-0.2	0.6	0.4	0.4	-0.4	0	-0.8	-0.7
Total	8.5	6.8	6.8	9.2	10.6	10.7	10.7	11.1	9.8	11.9	10.6	11.4
Memorandum:												
Annual Percentage Change in Discretionary Outlays		-16.1	4.0	32.0	29.0	-6.3	2.2	3.1	-5.3	17.4	-4.1	5.6

450-01 Convert the Rural Community Advancement Program to State Revolving Loan Funds

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	0	0
2003	0	0
2004	0	0
2005	0	0
2006	0	0
2002-2006	0	0
2002-2011	4,880	1,912
Relative to Inflated Appropriations		
2002	21	1
2003	40	5
2004	60	15
2005	80	29
2006	101	47
2002-2006	302	97
2002-2011	5,998	2,920

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

270-05 and 300-03

The Department of Agriculture's Rural Community Advancement Program (RCAP) assists rural communities by providing loans, loan guarantees, and grants for rural water and waste-disposal projects, community facilities, economic development, and fire protection. Funds are generally allocated among the states on the basis of their rural populations and the number of rural families with income below the poverty threshold. Within each state's allocation, the department awards funds on a competitive basis to eligible applicants, including state and local agencies, nonprofit organizations, and (in the case of loan guarantees for business and industry) for-profit firms.

The terms of a particular recipient's assistance depend on the purpose of the aid and, in some cases, the economic condition of the recipient's area. For example, aid for water and waste-disposal projects can take the form of loans with interest rates ranging from 4.5 percent to market rates, depending on the area's median household income; areas that are particularly needy may receive grants or a mix of grants and loans.

For 2001, the Congress appropriated $976 million for RCAP's grants and the budgetary cost of its loans and loan guarantees, which is defined under credit reform as the present value of the interest rate subsidies and expected defaults. The Congress could reduce future spending by capitalizing state revolving loan funds for rural development and then ending federal assistance under RCAP. The amount of federal savings would depend on the level and timing of the contribution to capitalize the revolving funds. Under one illustrative option, the federal government would provide steady funding of $976 million annually for five more years to capitalize the funds, then cut off assistance in 2007. That option would yield savings of $1.9 billion from 2007 to 2011 relative to current appropriations and $2.9 billion relative to current appropriations adjusted for inflation. That level of capitalization alone would not support the volume of loans and grants that RCAP now provides. Accordingly, the Congress could allow the revolving funds to use their capital as collateral with which to leverage new funds from the private sector, as has been allowed with the state revolving loan funds established under the Clean Water Act and Safe Drinking Water Act.

The main argument for replacing RCAP with a system of state revolving funds is that the federal government should not bear continuing responsibility for local development; rather, programs that benefit localities, whether urban or rural, should be funded at the state or local level. On the basis of that argument, a few more years of federal funding to capitalize the revolving funds would provide a reasonable transition to the desired policy.

One argument against converting RCAP is that states might shift their aid from grants to loans and from low-interest to high-interest loans to avoid depleting the revolving funds, which could price the aid out of the reach of needier communities. In addition, precedent suggests that the estimated federal savings might not materialize: the Congress continues to appropriate additional grants to the state funds for wastewater treatment systems, long past the point at which those funds were originally designed to be independent of federal support.

450-02 Eliminate the Appalachian Regional Commission

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	66	7
2003	66	20
2004	66	40
2005	66	51
2006	66	59
2002-2006	330	177
2002-2011	660	507
Relative to Inflated Appropriations		
2002	68	7
2003	69	21
2004	70	41
2005	72	53
2006	73	63
2002-2006	352	185
2002-2011	738	555

SPENDING CATEGORY:

Discretionary

The federal government provides annual funding to the Appalachian Regional Commission (ARC) for activities that promote economic growth in the Appalachian counties of 13 states. For 2001, the Congress appropriated $66 million for ARC. The states are responsible for filing development plans and recommending specific projects for federal funding. The commission distributes the funds competitively according to such factors as an area's growth potential, per capita income, and unemployment rate; the financial resources of the state and locality; the project's prospective long-term effectiveness; and the degree of private-sector involvement.

ARC supports a variety of programs, including the Community Development Program, mainly to create jobs; the Human Development Program, to improve rural education and health; and the Local Development District programs, to provide planning and technical assistance to multicounty organizations. (In 1998, the Congress transferred the responsibility for the Appalachian Development Highway System, previously another main ARC program, to the general Highway Trust Fund.) Federal funds also support 50 percent of the salaries and expenses of ARC staff. Discontinuing the programs funded through ARC would reduce federal outlays by $507 million over the 2002-2011 period relative to the 2001 funding level and $555 million relative to that level adjusted for inflation.

The debate over eliminating ARC focuses on two main points. First, ARC's critics argue that the responsibility for supporting local or regional development basically lies with the state and local governments whose citizens will benefit from the development, not with the federal government. ARC's supporters believe that the federal government has a legitimate role to play in redistributing funds among states to support development in the neediest areas and that reducing federal funding would reduce local progress in education, health care, and the creation of jobs. Second, the agency's critics note that all parts of the country have needy areas; they argue that such areas in Appalachia have no special claim to federal dollars. According to those critics, needy Appalachian areas should, like other areas, get federal development aid through national programs, such as those of the Economic Development Administration. ARC's defenders respond that Appalachia's size, physical isolation, and severe poverty have created a unique situation requiring special attention.

450-03 Drop Wealthier Communities from the Community Development Block Grant Program

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	619	12
2003	619	210
2004	619	470
2005	619	557
2006	619	588
2002-2006	3,095	1,838
2002-2011	6,190	4,927
Relative to Inflated Appropriations		
2002	639	13
2003	651	217
2004	664	490
2005	676	589
2006	690	632
2002-2006	3,320	1,941
2002-2011	6,969	5,447

SPENDING CATEGORY:

Discretionary

The Community Development Block Grant (CDBG) program provides annual grants, by formula, to cities and urban counties through what is referred to as its entitlement component. The program also allocates funds, by formula, to states, which in turn distribute the funds among smaller and more rural communities, called nonentitlement areas, typically through a competitive process.

In general, CDBG funds must be used to aid low- and moderate-income households, eliminate slums and blight, or meet emergency needs. Specific eligible uses include housing rehabilitation, infrastructure improvement, and economic development. Funds from the entitlement component may also be used to repay bonds that are issued by local governments (for acquiring public property, for example) and guaranteed by the federal government under the Section 108 program. For 2001, the CDBG program received a regular appropriation of $5.1 billion, including $3.1 billion for entitlement communities.

Under current law, all urban counties, central cities of metropolitan areas, and cities of 50,000 or more are eligible for the CDBG entitlement program. The formula for allocating entitlement funds includes the following factors: population, the number of residents with income below the poverty level, the number of housing units with more than one person per room, the number of housing units built before 1940, and the extent to which an area's population growth since 1960 is less than the average for all metropolitan cities. The formula neither requires a threshold percentage of residents living in poverty nor excludes communities with high average income.

Federal spending for the program could be reduced by focusing entitlement grants on needier jurisdictions and lowering funding accordingly. Several alternative changes to the current formula could yield similar results; one simple approach, however, would be to exclude communities whose per capita income exceeds the national average by more than a certain percentage. Data suggest that restricting the grants to communities whose per capita income is less than 112 percent of the national average, for example, would save 26 percent of the entitlement funds, in part by cutting the large grants to New York City and Los Angeles. To illustrate the general idea, this option assumes a somewhat smaller cut of 20 percent of entitlement funding, which would save an estimated $4.9 billion from 2002 to 2011 relative to the 2001 funding level and $5.4 billion relative to that level adjusted for inflation.

Proponents of such a change might argue that if the CDBG program can be justified at all (some people contend that using federal funds for local development is generally inappropriate), its primary rationale is redistribution and that redirecting money to wealthier communities serves no pressing interest. Opponents might argue that such a change would reduce efforts to aid low- and moderate-income households in pockets of poverty within those communities because local governments would not sufficiently reallocate their own funds to offset the lost grants.

450-04 Eliminate the Neighborhood Reinvestment Corporation

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	90	90
2003	90	90
2004	90	90
2005	90	90
2006	90	90
2002-2006	450	450
2002-2011	900	900
Relative to Inflated Appropriations		
2002	92	92
2003	94	94
2004	96	96
2005	97	97
2006	99	99
2002-2006	478	478
2002-2011	1,003	1,003

SPENDING CATEGORY:

Discretionary

The Neighborhood Reinvestment Corporation (NRC) is a public, nonprofit organization charged with revitalizing distressed neighborhoods. The NRC oversees a network of locally initiated and operated groups called NeighborWorks organizations, or NWOs, which engage in a variety of housing, neighborhood revitalization, and community-building activities. The corporation provides technical and financial assistance to begin new NWOs; it also monitors and assists current network members. As of September 2000, the NeighborWorks network had 205 members operating in 1,400 communities nationwide.

For 2001, the NRC's appropriation is $90 million. With those funds, plus a few million dollars from fees and other sources, the corporation provides grants, conducts training programs and educational forums, and produces publications in support of NWOs. The bulk of the grant money goes to NWOs, which use the funds to purchase, construct, and rehabilitate properties; capitalize their revolving loan funds; develop new programs; and cover operating costs. NWOs' revolving loan funds make home ownership and home improvement loans to individuals or loans to owners of mixed-use properties who provide long-term rental housing for low- and moderate-income households. In addition, the NRC awards grants to Neighborhood Housing Services of America to provide a secondary market for the loans from NWOs. Eliminating the NRC would save $900 million over 10 years relative to the 2001 funding level or $1.0 billion relative to that level adjusted for inflation.

One argument for eliminating the NRC is that the federal government should not fund programs whose benefits are local rather than national. A second argument is that the NeighborWorks approach duplicates the efforts of programs from other federal agencies (particularly the Department of Housing and Urban Development, or HUD) that also rehabilitate low-income housing and promote home ownership and community development. Third, critics of the corporation argue that even within the NeighborWorks approach, the NRC is a redundant funding channel. In 1999, NRC grants accounted for about one-quarter of the NWOs' governmental funding and roughly 5 percent of their total funding. Larger shares came from private lenders, foundations, corporations, and HUD.

The NRC's defenders argue that the large number of federal programs to assist local development is evidence of widespread support for a federal role—particularly in areas where state and local governments may lack adequate resources of their own. They further argue that NWOs focus on whole neighborhoods rather than individual housing properties and, with their nonhousing activities (such as community organization building, neighborhood cleanup and beautification, and leadership development), provide economic and social benefits that other federal programs do not. Finally, defenders say that the NRC is a valuable part of the approach because of its flexibility in making grants, which allows it to fund worthwhile efforts that do not fit within the narrow criteria of larger federal grantors, and because of the valuable services it provides to the NWOs, such as training, program evaluation, and technical assistance.

450-05 Drop Flood Insurance for Certain Repeatedly Flooded Properties

	Savings (Millions of dollars) Budget Authority	Outlays
2002	0	63
2003	0	68
2004	0	73
2005	0	79
2006	0	85
2002-2006	0	368
2002-2011	0	900

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

450-06

Data from the National Flood Insurance Program (NFIP) show that a relatively small number of properties subject to repeated flooding account for a large share of the losses incurred by the program. The Federal Emergency Management Agency (FEMA), which administers the NFIP, has focused its attention on properties for which there have been two or more losses of at least $1,000 each in any 10-year period since 1978 (the earliest year for which data are available). The nearly 92,000 properties fitting that definition account for about one-third of all claims, by both number and dollar value, since 1978. Many of those properties no longer have flood insurance: in some cases, the property has been destroyed or moved; in other cases, the owner dropped the policy—for example, after FEMA limited coverage under the NFIP for basement losses in 1983. The NFIP currently insures roughly 45,000 repeatedly flooded properties, representing about 1 percent of all policies in force but a much larger share of annual flood losses.

The issue of repeatedly flooded properties raises concern in part because they generally are covered at premium rates that are well below the actuarial risk of flood losses. FEMA's data show that 95 percent of such properties were built before the development of the flood insurance rate map (FIRM) for their community—which is not surprising, given the flood mitigation requirements imposed on post-FIRM construction. Thus, almost all repeatedly flooded properties are covered under the pre-FIRM premium rates that the government explicitly subsidizes. (See the related discussion for option 450-06.) Although some properties may incur losses twice in 10 years because of a bad "draw" of storms or other random events, others have flooded four, five, or even 10 or 20 times since 1978.

One way to reduce federal costs for the flood insurance program would be to deny coverage after the fourth loss of at least $1,000 in any 10-year period. FEMA's data indicate that the option would immediately affect more than 9,100 properties, and the Congressional Budget Office estimates that it would reduce federal outlays by $63 million in 2002 and $900 million over the 2002-2011 period. The main argument for this option is that neither taxpayers nor other policyholders should be required to provide an unlimited subsidy for properties known to be at high risk for frequent flood damage. The loss or threat of losing the NFIP's protection could encourage owners of such properties to take appropriate mitigation measures, such as elevating their structures or rebuilding elsewhere.

Opponents of dropping flood insurance for such properties argue that it would be unfair to the owners to suddenly withdraw their protection from flood risk—especially owners who have occupied their properties since before the local FIRM was developed and cannot readily afford relocation or other costly mitigation measures. Some opponents might prefer a more moderate change from the current policy, such as adding a repetitive-loss surcharge to insurance premiums or denying coverage only to policyholders who reject offers of mitigation assistance.

450-06 Reduce the Flood Insurance Subsidy on Pre-FIRM Structures

	Net Receipts (Millions of dollars)
2002	22
2003	67
2004	91
2005	92
2006	93
2002-2006	365
2002-2011	842

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

450-05

The National Flood Insurance Program (NFIP) charges two different sets of premiums: one for buildings constructed before 1975 or before the completion of a participating community's flood insurance rate map (FIRM)—known as pre-FIRM buildings—and another for post-FIRM buildings. Post-FIRM premiums are intended to be actuarially sound—that is, to cover the costs of all insured losses over the long term—and are based on buildings' elevations relative to the water level expected during a "100-year flood" (the most severe flood thought to have a local probability of at least 1 in 100 each year). In contrast, pre-FIRM rates are heavily subsidized, on average, and do not take elevation into account. Currently, about one-sixth of all flood insurance coverage is provided at pre-FIRM rates.

The Federal Emergency Management Agency (FEMA), which administers the flood insurance program, estimates that 29 percent of the current policyholders are paying pre-FIRM rates. Those rates are available only for the first $35,000 of coverage for a single-family or a two- to four-family dwelling and for the first $100,000 of coverage for a larger residential, nonresidential, or small-business building. Various levels of additional coverage are available at actuarially sound rates. The program also offers insurance for buildings' contents; again, policyholders in pre-FIRM buildings pay lower rates for a first tier of coverage. The Congressional Budget Office estimates that, on average, the first-tier prices represent 38 percent of the actuarial value, implying a subsidy rate of 62 percent. The size of the subsidy for any particular building depends heavily on its elevation. For buildings that lie above the 100-year-flood level, post-FIRM premiums are actually lower than pre-FIRM rates. Owners of such properties can reduce their insurance costs by getting the elevation certified, and many have done so.

Reducing the average subsidy from 62 percent to 50 percent—implying a premium increase of about 30 percent in the subsidized tier—would yield additional net receipts of $22 million in 2002 and $842 million over the 2002-2011 period. Those estimates take into account the likelihood that some current policyholders would drop their coverage. Flood insurance is mandatory only for properties in special flood hazard areas that carry mortgages from federally insured lenders, and compliance with the requirement is far from complete. Accordingly, CBO expects that the option would somewhat reduce the participation of both voluntary purchasers and property owners for whom the insurance is mandatory.

Advocates of this option argue that the subsidy has outlived its original justification as a temporary measure to encourage participation among property owners who were not previously aware of the magnitude of the flood risks they faced. Raising premiums closer to actuarial levels, such advocates maintain, would make policyholders pay more of their fair share for insurance protection and would give them stronger incentives to relocate or take preventive measures.

Supporters of the current subsidy contend that a 30 percent increase in premiums would be an unfair burden to owners of pre-FIRM properties, which were built before FEMA documented the extent of the flood hazards. They argue that the increase would be particularly unjust for those policyholders who are already paying more than post-FIRM premiums (because they are unaware that their properties lie above the 100-year-flood elevation). Subsidy supporters further argue that reduced rates of participation in the program would lead to increased spending on disaster grants and loans and thereby erode some of the savings projected for this option. Finally, they question the accuracy of the maps FEMA uses to estimate the average long-run subsidy, noting that for most pre-FIRM properties (except a relatively few structures that repeatedly flood), premiums now roughly equal the average losses incurred to date.

450-07 Eliminate the Community Development Financial Institutions Fund

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	102	18
2003	117	51
2004	117	88
2005	117	109
2006	117	116
2002-2006	570	383
2002-2011	1,155	968
Relative to Inflated Appropriations		
2002	104	19
2003	122	53
2004	124	92
2005	127	115
2006	130	125
2002-2006	607	403
2002-2011	1,295	1,069

SPENDING CATEGORY:

Discretionary

The Congress created the Community Development Financial Institutions (CDFI) fund in 1994 to expand the availability of credit, investment capital, and financial services in distressed communities. The fund provides equity investments, grants, loans, and technical assistance to CDFIs, which include community development banks, credit unions, loan funds, venture capital funds, and microenterprise funds. In turn, the CDFIs provide a range of financial services—such as mortgage financing for first-time home buyers, loans and investments for new or expanding small businesses, and credit counseling—in market niches underserved by traditional institutions. The CDFI fund also provides incentive grants to traditional banks and thrifts to invest in CDFIs and to increase loans and services to distressed communities.

For 2001, the Congress appropriated $118 million for the CDFI fund. Eliminating the fund would save $968 million over 10 years relative to that appropriation or $1.1 billion relative to that appropriation adjusted for inflation. Those estimated savings take into account the small amount of spending that would still be required by another agency (perhaps the Small Business Administration) for oversight of the fund's existing loan portfolio.

Opponents criticize the CDFI fund on several grounds. First, as with many of the options in this section, some critics argue that local development should be funded at the state or local level, not by the federal government, since its benefits are not national in scope. Second, opponents see the fund as redundant, given that many other federal programs and agencies support home ownership and local economic development, including the Empowerment Zones/Enterprise Communities Program, housing loan programs of the Rural Housing Service, Community Development Block Grants, the Neighborhood Reinvestment Corporation, and the Economic Development Administration. Appropriations for those programs and agencies totaled $6.5 billion in 2001. Third, some critics argue that assistance to CDFIs is likely to be inefficient, encouraging them to make loans that would not pass market tests for creditworthiness. Fourth, opponents say that the fund has been poorly managed: an oversight report from the House Banking Committee found that the fund had not followed accepted federal procedures in making its first round of grants in 1996, had not accurately documented the factors used in selecting applicants, and had paid excessive rates to outside contractors handpicked by CDFI officials. As a result, the fund's director and deputy director resigned in August 1997.

Supporters of the fund argue that the federal government has a legitimate role in assisting needy communities and that the fund provides an efficient mechanism for leveraging private-sector investment with a relatively small federal contribution. They also say that management has improved, noting that audits for fiscal years 1998 and 1999 showed no material weaknesses and that the House Banking Committee reported a bill in 1999 to reauthorize the fund for four years while providing some additional management controls.

500

Education, Training, Employment, and Social Services

Budget function 500 primarily covers federal spending within the Departments of Education, Labor, and Health and Human Services for programs that directly provide—or assist states and localities in providing—services to young people and adults. Its activities provide developmental services to low-income children, help fund programs for disadvantaged and other elementary and secondary school students, make grants and loans to postsecondary students, and fund job-training and employment services for people of all ages. CBO estimates that total outlays for function 500 will be $69.8 billion in 2001. Discretionary outlays represent $54.0 billion of that total. The fluctuation in budget authority in recent years is largely attributable to the introduction in 2000 of advance appropriations that shifted significant amounts of funding from 2000 to 2001. Since 1990, function 500 has experienced increases in discretionary outlays in all but one year.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	30.0	33.8	36.3	38.2	40.6	39.9	36.5	42.8	46.7	46.6	44.4	61.2
Outlays												
Discretionary	27.9	30.6	34.0	36.5	37.6	38.9	38.5	39.6	42.5	45.1	49.0	54.0
Mandatory	10.9	12.8	11.2	13.5	8.7	15.3	13.5	13.4	12.4	11.3	10.4	15.8
Total	38.8	43.4	45.2	50.0	46.3	54.3	52.0	53.0	55.0	56.4	59.4	69.8
Memorandum:												
Annual Percentage Change in Discretionary Outlays		9.8	11.2	7.2	3.1	3.5	-1.2	3.1	7.3	6.1	8.5	10.3

500-01 Reduce Funding for Title I, Education for the Disadvantaged

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	102	19
2003	372	298
2004	372	365
2005	372	372
2006	372	372
2002-2006	1,591	1,425
2002-2011	3,452	3,286
Relative to Inflated Appropriations		
2002	148	27
2003	578	436
2004	729	654
2005	877	810
2006	1,028	960
2002-2006	3,358	2,888
2002-2011	10,865	10,038

SPENDING CATEGORY:

Discretionary

Title I of the Elementary and Secondary Education Act of 1965 provides two kinds of grants to school districts to fund supplementary educational services for educationally disadvantaged children. Basic grants allocate federal funds on the basis of the number of children who live in families with income below the poverty level in a particular geographic area. Concentration grants provide additional funds to school districts in counties in which the number of poor children exceeds 6,500 or 15 percent of the school-age population. Although Title I distributes funds on the basis of the number of poor students in a district, schools that receive the money may use it to provide services to any students who are performing far below their grade level.

Title I funds reached about 46,000 schools in 2000 and served approximately 13 million children. About 19,000 schools operated schoolwide programs (which benefit all of the children in a specific school), and almost 28,000 schools participated in targeted assistance programs (which must focus the grants on the children most in need of Title I services).

This option would reduce budget authority for basic grants to local educational agencies by 5 percent in 2002 and hold it at that level for 10 years. Implementing the option would save \$3.3 billion relative to current appropriations over the 2002-2011 period and \$10 billion relative to current appropriations adjusted for inflation. By 2011, program spending would be 21 percent below the 2001 level adjusted for inflation. To direct cuts toward the schools with the least need for Title I services, the eligibility criteria for receiving funding could be altered. Currently, the law restricts Title I basic grant funds to school districts that have at least 2 percent of their children living in families with income below the poverty level and at least 10 poor children. If the Congress raised the lower bound on the criterion for the percentage of children living in poverty (for example, to 5 percent or 10 percent), funding could be maintained at its current level for the school districts that satisfied the more restrictive eligibility criteria.

Some proponents of eliminating federal funding for elementary and secondary education argue that such support represents federal intervention into matters that are primarily of state and local concern. Opponents, however, insist that federal funding augments state and local efforts and ultimately makes them more successful.

The primary argument for reducing Title I funding in particular is that there is little evidence that it improves the long-term academic performance of students who receive its services. Many studies have compared students receiving Title I services with groups of students that are similar by grade and poverty status. Such studies show that program participants do not improve their academic achievement relative to other students. However, supporters of the program maintain that Title I funds help underachieving students in schools that serve many poor children. Advocates also note that such funding is a major federal instrument for fostering school reform, because states applying for the grants must develop standards specifying what public-school children should know and be able to do at various points in their education.

500-02 Reduce Funding to School Districts for Impact Aid

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	74	67
2003	74	73
2004	74	74
2005	74	74
2006	74	74
2002-2006	370	361
2002-2011	740	731
Relative to Inflated Appropriations		
2002	76	68
2003	77	75
2004	79	78
2005	80	80
2006	82	81
2002-2006	393	383
2002-2011	825	814

SPENDING CATEGORY:

Discretionary

The Impact Aid program, authorized under title VIII of the Elementary and Secondary Education Act, provides funds to school districts affected by activities of the federal government. Most of the program's funds pay basic support to districts for so-called federally connected pupils and for school construction in areas where the federal government has acquired a significant portion of the real property tax base, thereby depriving the school district of a source of revenue. Impact Aid funds are also used to support federally connected pupils with disabilities, to maintain schools owned by the Education Department (ED), and to support heavily impacted school districts with large proportions of federally connected pupils and limited fiscal capacity.

For a school district to be eligible for Impact Aid basic support payments, a minimum of 3 percent (or at least 400) of its pupils must be associated with activities of the federal government—for example, pupils whose parents both live and work on federal property (including Indian lands), pupils whose parents are in the uniformed services but live on private property, and pupils who live in federally subsidized low-rent housing. In addition, aid goes to a few districts enrolling at least 1,000 pupils (or 10 percent of enrollment) whose parents work but do not live on federal property. In 2000, approximately 1,400 local education agencies received Impact Aid basic support payments.

This option would restrict Impact Aid to the school districts that are most affected by federal activities—districts with children who live on federal property and have a parent who is in the military or is a civilian federal employee and districts with children who live on Indian lands. It would reduce the basic support paid to eligible school districts, as well as payments made to support federally connected children with disabilities, school construction, and heavily impacted districts. Impact Aid for maintenance of ED-owned schools is used to upgrade and transfer ownership of schools to the school districts; that category of spending would not be affected by this option. These changes would reduce federal outlays by $731 million during the 2002-2011 period relative to current appropriations and by $814 million relative to current appropriations adjusted for inflation. The Clinton Administration's budget for fiscal year 2001 proposed this policy.

Proponents of this option argue that it is appropriate to restrict Impact Aid payments to students whose presence puts the greatest burden on school districts. Opponents argue that eliminating payments for other types of children associated with federal activities could significantly affect certain districts—for example, those in which large numbers of military families live off-base but shop at military exchanges, which do not collect state and local sales taxes.

500-03 Eliminate Funding for Federal Initiatives to Reduce Class Size

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	473	81
2003	1,623	1,136
2004	1,623	1,542
2005	1,623	1,623
2006	1,623	1,623
2002-2006	6,965	6,005
2002-2011	15,080	14,120
Relative to Inflated Appropriations		
2002	483	83
2003	1,668	1,163
2004	1,701	1,601
2005	1,734	1,714
2006	1,767	1,747
2002-2006	7,353	6,308
2002-2011	16,702	15,553

SPENDING CATEGORY:

Discretionary

For academic year 2001-2002, the Congress appropriated $1.6 billion to reduce the size of elementary school classes nationwide. The law also allows school districts to use up to 25 percent of local grants to improve teacher quality. Moreover, districts in which class sizes have already been reduced can use the funds to improve the quality of teachers in the lower grades or to hire more teachers for upper grades. By eliminating funding for the program, the federal government could save $14.1 billion in outlays over the next 10 years relative to current appropriations and $15.6 billion relative to current appropriations adjusted for inflation.

In recent reviews of the scientific evidence for the benefits of small classes, the results of one study, Tennessee's Project STAR, are prominent because of the study's rigorous experimental design. Children entering kindergarten were randomly assigned either to special small classes of between 13 and 17 students or to "regular" classes of between 22 and 26 students. With only a few exceptions, students remained in the same size class to which they were initially assigned through the end of the third grade.

Testing showed that students in the small classes outperformed students in the regular classes on both standardized and curriculum-based tests. In the early grades, the positive effect of small classes on achievement among minority students was twice that for nonminority students. Through eighth grade, students who had been in the small classes showed a decreasing but still significantly higher level of academic achievement than students in the regular classes.

Proponents of eliminating federal funding for class-size initiatives see limitations to Project STAR's success. If education is cumulative, with each year building on what was learned the year before, children assigned to a small class would be expected to pull further away from their counterparts in a regular class for each year they remained in the small class. In fact, the evidence shows such advances for youngsters in small classes only at the end of kindergarten and first grade, not at higher grades. Critics of a policy advocating small class sizes also point to other evidence suggesting that class size must fall to about 15 students before it has an effect. Reducing class sizes to those levels would be quite expensive, and the costs would increase over time. More classrooms would have to be built; new teachers would require services such as staff training; and as they gained experience, those teachers' salaries would increase. Finally, the critics note that strategies such as providing one-on-one or peer tutoring as well as cooperative learning achieve results similar to those gained from reducing class size—but at a fraction of the cost.

Supporters of funding for initiatives to decrease class size find that approach attractive because it moves resources directly to the classroom and to students. Furthermore, many analysts have concluded that enrollment in the early grades in small classes of about 18 or fewer students can have positive effects on a student's academic achievement, compared with enrollment in classes of between 25 and 30 students. Minority students in particular seem to benefit from small classes. In addition, most of the benefits students gain from being in a small class appear to persist into later grades.

500-04 Consolidate and Reduce Funding for Several Elementary and Secondary Education Programs

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	499	43
2003	675	463
2004	675	642
2005	675	675
2006	675	675
2002-2006	3,200	2,499
2002-2011	6,576	5,875
Relative to Inflated Appropriations		
2002	547	48
2003	827	506
2004	962	792
2005	1,097	957
2006	1,237	1,092
2002-2006	4,671	3,396
2002-2011	13,025	10,884

SPENDING CATEGORY:

Discretionary

Current federal programs to aid elementary and secondary education are generally categorical—that is, they focus on specific populations of students with special needs (for example, disabled students or educationally disadvantaged students), on subject areas of high priority to policymakers (such as mathematics or science), or on specific approaches to improving education (for instance, charter schools). The Congress adopted categorical forms of federal aid in certain cases because of a belief that many states would be unable or unwilling to commit funds to those priorities. Categorical programs focusing on education reform and school innovation, for which the Congress appropriated a combined \$6.5 billion in fiscal year 2001, could be consolidated under a single block grant. Funds from the grant could be used for any of the purposes previously authorized for the categorical programs, but states would have greater discretion about how the money would be spent.

To reduce federal outlays, the federal government could cut the consolidated block grant for education reform and school improvement by 10 percent of the 2001 funding level and hold spending at that amount over the next 10 years. Doing so would save \$5.9 billion during the 2002-2011 period relative to current appropriations and \$10.9 billion relative to current appropriations adjusted for inflation. By 2011, this option would result in a program that was 24 percent smaller than the 2001 level adjusted for inflation.

Proponents of block grants for education point out that they give states and local education agencies the flexibility to direct federal aid toward the schools' greatest needs. Block grants can circumvent the administrative requirements accompanying categorical aid programs, which may limit a school's ability to implement comprehensive reform. Block grants also avoid the problems created within a school by a proliferation of categorical programs that may lead to gaps in a child's instructional program in some areas and duplication in others. Moreover, by requiring that funds be clearly associated with the intended beneficiaries, categorical grants may encourage schools to partially segregate children with special needs, track students by achievement level, or perpetuate lower expectations of their performance.

Opponents of education block grants argue that they dilute the effect of federal funding on national educational priorities and provide less assurance than categorical funding that federal aid will be used to meet national objectives. Furthermore, opponents point out that alternative means, such as waivers, are now available to give state and local education agencies increased flexibility in using funds from categorical programs without sacrificing federal priorities.

500-05 Reduce Spending and Increase the Targeting of Funds for Safe and Drug-Free Schools and Communities

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	47	5
2003	97	68
2004	97	92
2005	97	97
2006	97	97
2002-2006	434	358
2002-2011	917	841
Relative to Inflated Appropriations		
2002	54	6
2003	117	78
2004	130	115
2005	143	133
2006	156	146
2002-2006	601	478
2002-2011	1,588	1,410

SPENDING CATEGORY:

Discretionary

The Safe and Drug-Free Schools and Communities Act (SDFSCA) funds programs in schools, communities, and institutions of higher education to address the use of illegal substances such as alcohol, cigarettes, and drugs among youth and the related issue of violence in schools. Approximately 97 percent of the nation's school districts receive funding under the act, and generally students in grades 5 through 12 participate in the programs. The wide distribution of SDFSCA funding has led to questions about whether such aid might be more effective if it was focused on areas or groups of people with the greatest need.

In fiscal year 2001, states received $592 million of the program's total funding of $644 million. Half of each state's award is based on its school-age population, and half is based on the number of poor children in the state. The law requires states to distribute 80 percent of their grants to school districts, primarily on the basis of enrollment. The remaining 20 percent of state grants go to the governors for services to groups not covered by the education system, such as incarcerated youth and school dropouts. Little evidence is available to date about whether SDFSCA programs reduce rates of substance use and violence among youth. However, research shows that the programs have been effective in increasing awareness about the consequences of drug use.

This option would reduce funding to the states by 15 percent of the 2001 funding level and require them to direct the remaining funds toward areas or groups of people considered most likely to benefit from such grants. Over the 2002-2011 period, this option would save about $840 million relative to current appropriations and about $1.4 billion relative to current appropriations adjusted for inflation. Implementing this option would result in a program that, by 2011, was 29 percent below the 2001 level adjusted for inflation.

To better target SDFSCA grants, the federal government could change the formula for allocating funds among the states, reduce the number of school districts within states that may receive grants, or target certain age groups within the schools. For instance, federal grant amounts could be tied to a "need" indicator such as state rates of crime or drug use. Similarly, states in their turn could be required to allocate grants to school districts either on the basis of need or through a competitive process. The federal government could also require states to focus funds on children in the earlier grades. Research indicates that prevention programs might be most effective in changing those students' attitudes about drugs and violence.

Focusing SDFSCA funds, as this option provides, could have several different effects. Districts with less crime and fewer drug problems might not receive grants, whereas districts with higher levels of need might receive grants that would be large enough to implement somewhat more comprehensive drug- and violence-prevention programs than are possible with the current level and distribution of federal funds. Yet even in areas with low rates of crime and drug use, prevention programs may serve a proactive function by raising people's awareness of the problem. If such programs were eliminated, drug use and violence might accelerate and lead to even more costly interventions on the part of school systems and communities.

500-06-A Eliminate Interest Subsidies on Loans to Graduate Students

	Outlay Savings (Millions of dollars)
2002	395
2003	575
2004	575
2005	575
2006	575
2002-2006	2,695
2002-2011	5,730

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

500-06-B and 500-06-C

Federal student loan programs afford students and their parents the opportunity to borrow funds to attend postsecondary schools. Those programs offer three types of loans: "subsidized" loans to students who are defined as having financial need, "unsubsidized" loans to students regardless of need, and loans to parents of students. Two programs provide all three types of loans; they are the Federal Family Education Loan Program, in which loans made by private lenders are guaranteed by the federal government, and the Ford Federal Direct Student Loan Program, in which the government makes the loans through schools. With all of the loans, borrowers benefit because the interest rate charged is lower than the rates most of them could secure from alternative sources. With subsidized loans, borrowers benefit further because the federal government pays the interest on the loans while students are in school and during a six-month grace period after they leave.

Federal costs could be reduced by limiting eligibility for subsidized loans to undergraduate students. Graduate students could substitute unsubsidized loans for the subsidized loans they had received previously. That change would reduce federal outlays by $395 million in 2002 and $5.7 billion over the 2002-2011 period.

Restricting subsidized loans to undergraduate students would direct funds toward achieving the goal of making an undergraduate education affordable. Graduate students do not constitute the federal government's particular focus. Under this option, graduate students who took unsubsidized loans to replace the subsidized loans they had lost would ultimately be responsible for somewhat higher loan payments. However, the federal student loan programs have several options for making repayment manageable for students who have high loan balances or difficult financial circumstances.

Nevertheless, graduate students often amass large student loan debts because of the number of years of schooling required for their degrees. Without the benefit of interest forgiveness while they were enrolled in school, their debt would be substantially larger when they entered the repayment period because the interest on the amounts they had borrowed over the years would be added to their loan balance.

500-06-B Increase Origination Fees for Unsubsidized Loans to Students and Parents

	Outlay Savings (Millions of dollars)
2002	225
2003	325
2004	280
2005	125
2006	130
2002-2006	1,085
2002-2011	1,795

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

500-06-A and 500-06-C

The federal government recoups part of the cost of insuring student loans by collecting 3 percent of the face value of each loan from students and their parents as an origination fee. (Guaranty agencies may collect an additional 1 percent of the face value as an insurance fee to replenish the federal reserve fund they manage. Since 1998, few agencies have charged that fee, but they would do so again were the reserve fund to fall below a certain level.) The fees are charged on subsidized, unsubsidized, and PLUS loans (Parent Loans to Undergraduate Students).

Under this option, the origination and insurance fees in the Federal Family Education Loan Program (FFELP) and the origination fee in the Ford Federal Direct Student Loan Program would be set equal to 4 percent. To implement the change, the Congress would have to require guaranty agencies to collect the 1 percent insurance fee on all FFELP loans and the Department of Education to collect a 4 percent fee on all direct loans. Those changes would reduce program outlays by $225 million in 2002 and $1.8 billion over the 2002-2011 period.

An argument for the change is that even with the higher origination fees, many students would still benefit substantially from the loans, in part because the government guarantees them. The guarantee means that lenders are willing to make loans to students who do not have a credit history and to make them at interest rates below those available on most private loans. Furthermore, during the first five years of repayment, many borrowers can subtract the interest on the loans from their income for the purpose of calculating federal income taxes.

Increasing the origination fees, however, would reduce the net proceeds from any given loan. As a result, students would need to secure larger loans to finance the same amount of education. That could pose a problem for many students who were already borrowing the maximum allowed by law.

500-06-C Restrict Eligibility for Subsidized Student Loans by Including Home Equity in the Determination of Financial Need

	Outlay Savings (Millions of dollars)
2002	70
2003	100
2004	100
2005	100
2006	100
2002-2006	470
2002-2011	970

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

500-06-A and 500-06-B

The Higher Education Amendments of 1992 eliminated home equity from consideration in determining how much a student's family is expected to contribute to cover educational expenses. That made it easier for many students to obtain subsidized student loans. The amount a family is expected to contribute is determined by what is essentially a progressive tax formula. In effect, federal calculations "tax" family income and assets above the amount assumed to be required for a basic standard of living. Since 1992, the definition of assets has excluded home equity for all families and excluded all assets for applicants whose income is below $50,000.

Under this option, home equity would be included in calculating a family's need for financial aid for postsecondary education. In addition, the income threshold under which most families are not asked to report their assets would be lowered from $50,000 to its previous level of $15,000. Home equity would be "taxed," as other assets are now, at rates of up to about 5.6 percent after a deduction for allowable assets. The change would result in fewer students qualifying for subsidized loans and more students qualifying for subsidized loans of smaller amounts. Overall, by including home equity, outlays could be reduced by about $70 million in 2002 and $970 million during the 2002-2011 period.

Under this option, students who lost access to subsidized loans could take unsubsidized loans to finance the family's expected contribution. That approach would cause relatively little difficulty for families' budgets because the interest payments on unsubsidized loans can be postponed while the student is in school. The interest is then simply added to the accumulated loan balance when the student leaves school and begins repayment.

Nonetheless, students who shifted to taking out unsubsidized loans (or larger unsubsidized loans) would leave school with higher loan balances. That outcome would make repaying the loans more difficult for some students. And for many families, having to determine the value of their home and other assets would complicate the loan application process.

500-07 Reduce Special Allowances Paid to Lenders in the Student Loan Program

	Outlay Savings (Millions of dollars)
2002	255
2003	340
2004	0
2005	0
2006	0
2002-2006	595
2002-2011	595

SPENDING CATEGORY:

Mandatory

RELATED CBO PUBLICATIONS:

Letter to the Honorable Pete V. Domenici regarding the profitability of federally guaranteed student loans, March 30, 1998, and *Addendum to "The Profitability of Federally Guaranteed Student Loans,"* April 2, 1998.

The largest federal student loan program is the Federal Family Education Loan Program, which guarantees 98 percent reimbursement on defaulted loans made by private lenders to eligible students. Under the program, students and the federal government together pay lenders an interest rate each year that is based on changes in a reference rate determined in the financial markets. The federal payments are called special-allowance payments; their purpose is to approximate a fair market return to lenders while subsidizing the cost to students of financing their education. One such payment, which was added by the Higher Education Amendments of 1998 and modified in 1999, applies to subsidized and unsubsidized loans made after October 1, 1998, and before July 1, 2003. Under that provision, the federal government will make payments to lenders between October 1, 2000, and July 1, 2003, that CBO estimates will average about 0.37 percentage points. This option would eliminate those payments on all new subsidized and unsubsidized loans. Savings would total $255 million in 2002 and $595 million over the 2002-2003 period, at the end of which the provision would expire.

An argument for reducing the special-allowance payment is that in most cases, it is not needed for lenders to achieve a fair market rate of return on their loans. By using a reference rate that closely mirrors the interest rate that lenders pay on their own debts, the government has assured lenders a stable net income from student loans. Moreover, nearly the entire loan amount is guaranteed by the federal government. In addition, a 1998 study by the Department of the Treasury concluded that even with a yield that was 0.5 percentage points lower on loans made under the program, lenders would earn returns that, on average, would be sufficient to make the business attractive.

The argument for retaining the payment is that without it, some lenders would, indeed, receive unacceptably low rates of return and leave the program. Such thinning of the lender ranks could create difficulties for financial aid officers who administer student financial aid at postsecondary institutions and for students who seek loans. In general, student loans are quite small compared with, for example, mortgage loans, but the costs of servicing them are not proportionately lower. As a result, the interest rate necessary to yield sufficient income to cover the costs of servicing must be higher. Furthermore, servicing costs vary by the size of the loan and the characteristics of the student, so reducing the profit margin for lenders might induce them to stop making loans to some students. Another risk of paying lenders less than a fair market rate of return is that they might stop investing in improving the quality of loan servicing or stop adapting their package of loan services to the particular needs of the institutions that participate in the loan program.

500-08 Eliminate Administrative Fees Paid to Schools in the Campus-Based Student Aid and Pell Grant Programs

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	163	18
2003	163	158
2004	163	163
2005	163	163
2006	163	163
2002-2006	815	666
2002-2011	1,630	1,481
Relative to Inflated Appropriations		
2002	167	19
2003	170	162
2004	173	170
2005	176	173
2006	180	177
2002-2006	866	701
2002-2011	1,817	1,636

SPENDING CATEGORY:

Discretionary

In two types of federal student aid programs, the government pays schools to administer the programs or to distribute the funds, or both. In campus-based aid programs, which include Federal Supplemental Educational Opportunity Grants, Federal Perkins Loans, and Federal Work-Study Programs, the government distributes funds to institutions that in turn award grants, loans, and jobs to qualified students. Under a statutory formula, institutions may use up to 5 percent of program funds for administrative costs. Similarly, in the Federal Pell Grant Program, the schools distribute the funds, although eligibility is determined solely by federal law. The Higher Education Act provides for a federal payment of $5 per Pell grant to reimburse schools for a share of their costs of administering the program.

Relative to current appropriations, the federal government could save about $143 million a year if schools were not allowed to use federal funds from the campus-based aid programs to pay for administrative costs. The government could save another $20 million if the $5 payment to schools in the Pell Grant program was eliminated. Together, those options would produce savings of $18 million in 2002 and $1.5 billion over the 2002-2011 period relative to current appropriations. This option would save $1.6 billion over the next 10 years relative to current appropriations adjusted for inflation.

Arguments can be made both for eliminating the administrative payments and for retaining them. On the one hand, institutions benefit significantly from participating in federal student aid programs even without the payments because the aid makes attendance at the schools more affordable. In 2001, students will receive an estimated $12.4 billion in federal funds under the Pell Grant and campus-based aid programs.

On the other hand, the institutions do, indeed, incur costs for administering the programs. Furthermore, if the federal government does not pay those expenses, schools may simply pass along the costs to students in the form of higher tuition or fees.

500-09 Eliminate the Leveraging Educational Assistance Partnership Program

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	55	11
2003	55	55
2004	55	55
2005	55	55
2006	55	55
2002-2006	275	231
2002-2011	550	506
Relative to Inflated Appropriations		
2002	56	11
2003	57	56
2004	58	58
2005	60	59
2006	61	60
2002-2006	292	244
2002-2011	613	560

SPENDING CATEGORY:

Discretionary

The Leveraging Educational Assistance Partnership (LEAP) program, formerly the State Student Incentive Grant program, helps states provide financially needy postsecondary students with grant and work-study assistance while they attend either academic institutions or vocational schools. States must match federal funds at least dollar for dollar and also meet maintenance-of-effort criteria. Unless excluded by state law, all public and private nonprofit postsecondary institutions in a state are eligible to participate in the LEAP program.

Relative to current appropriations, eliminating the program would save $506 million over the 2002-2011 period. Relative to current appropriations adjusted for inflation, the 10-year savings would total $560 million. The extent of the actual reduction in student assistance would also depend on the responses of states, some of which would probably make up at least part of the lost federal funds.

Proponents of eliminating this program argue that it is no longer needed to encourage states to provide more student aid. When the LEAP program was first authorized in 1972, only 28 states had student grant programs; now, all 50 states provide such grants.

An argument against eliminating the LEAP program is that not all states would increase their student aid appropriations to make up for the lost federal funding and some might even reduce them. In that case, some students who received less aid might not be able to enroll in college or might have to attend a less expensive school.

500-10 End New Funding for Perkins Loans

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	100	10
2003	100	97
2004	100	100
2005	100	100
2006	100	100
2002-2006	500	407
2002-2011	1,000	907
Relative to Inflated Appropriations		
2002	102	10
2003	104	99
2004	106	104
2005	108	106
2006	110	108
2002-2006	531	429
2002-2011	1,115	1,002

SPENDING CATEGORY:

Discretionary

The federal government provides student loans through three programs: Federal Family Education Loans, Ford Federal Direct Student Loans, and Federal Perkins Loans (formerly National Defense Student Loans). The Perkins Loan program is the smallest, with allocations made directly to approximately 2,000 postsecondary institutions. Financial aid administrators at those schools then determine which eligible students receive Perkins loans. During the 2000-2001 academic year, approximately 700,000 students received such loans.

The money for Perkins loans comes from an institutional revolving fund, totaling approximately $1.1 billion in 2001, that has four sources: collections by the schools of payments on prior year student loans ($945 million in 2000), federal payments for loan cancellations granted in exchange for teaching in high-need areas or for military or public service ($60 million in 2001), federal contributions from new appropriations ($100 million in 2001), and institutional matching contributions that for each school must equal at least one-third of the federal contribution.

Eliminating new appropriations for federal contributions would lower outlays by $907 million relative to current appropriations during the 2002-2011 period and by $1 billion relative to current appropriations adjusted for inflation. The extent of the reduction in funds for student loans would depend on the responses of postsecondary institutions, some of which would make up part or all of the lost federal money. If institutions made up none of the lost federal funds but continued to contribute to the program at the level of their previous matching share, approximately 64,000 fewer Perkins loans would be made.

Reflecting the view that the main goal of federal student aid is to eliminate financial barriers to postsecondary education, the primary justification for this option is that the program may be failing to provide equal access to students with equal financial need. Federal contributions are allocated, first, on the basis of an institution's 1985 allocation and, second, on the basis of the financial need of its students. Because campus-based aid is tied to specific institutions, students with greater need at poorly funded schools may receive less than those with less need at well-funded institutions.

Eliminating new funds for Perkins loans, however, would reduce the discretion of postsecondary institutions in packaging aid to address the special situations of some students. It would also reduce total available aid. Moreover, Perkins loans disproportionately help students at private nonprofit institutions (whose students get almost half of the aid, compared with about 20 percent of Pell Grant aid). Thus, cutting Perkins loans would make that type of school less accessible to financially needy students.

500-11 Reduce Funding for the Arts and Humanities

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	125	80
2003	125	110
2004	180	175
2005	180	180
2006	180	180
2002-2006	790	725
2002-2011	1,690	1,625
Relative to Inflated Appropriations		
2002	145	90
2003	180	145
2004	270	255
2005	300	290
2006	335	325
2002-2006	1,230	1,105
2002-2011	3,445	3,270

SPENDING CATEGORY:

Discretionary

The federal government subsidizes various activities related to the arts and humanities. In 2001, combined funding for several programs totaled nearly $1.2 billion; it comprised federal appropriations for the Smithsonian Institution ($456 million), the Corporation for Public Broadcasting ($360 million), the National Endowment for the Humanities ($120 million), the National Endowment for the Arts ($99 million), the National Gallery of Art ($76 million), the John F. Kennedy Center for the Performing Arts ($34 million), and the Institute of Museum Services ($25 million).

Cutting funding for those programs by 15 percent of the fiscal year 2001 appropriation and holding spending at that nominal level would reduce federal outlays over the 2002-2011 period by $1.6 billion relative to the current funding level and by $3.3 billion after adjusting for inflation. By 2011, spending on these programs would be 33 percent below the 2001 level adjusted for inflation if this option were implemented. (Savings from a reduction in funding for the Corporation for Public Broadcasting would not be realized until 2004 because the program receives its appropriations two years in advance.) The actual effect on arts and humanities activities would depend in large part on the extent to which other funding sources—states, localities, individuals, firms, and foundations—increased their contributions.

Some proponents of reducing or eliminating funding for the arts and humanities argue that support of such activities is not an appropriate role for the federal government. Other advocates of cuts suggest that the expenditures are particularly unacceptable when programs addressing central federal concerns are not being funded fully. Some federal grants for the arts and humanities already require nonfederal matching contributions, and over half of all museums charge or suggest that patrons pay an entrance fee. Those practices could be expanded to accommodate a reduction in federal funding.

However, critics of cuts in funding contend that alternative sources would be unlikely to fully offset the drop in federal subsidies. Subsidized projects and organizations in rural or low-income areas might find it especially difficult to garner increased private backing or sponsorship. Thus, a decline in government support, opponents argue, would reduce activities that preserve and advance the nation's culture and that introduce the arts and humanities to people who might not otherwise have access to them.

500-12 Eliminate Funding for the Senior Community Service Employment Program

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	440	80
2003	440	400
2004	440	440
2005	440	440
2006	440	440
2002-2006	2,200	1,800
2002-2011	4,400	4,000
Relative to Inflated Appropriations		
2002	450	80
2003	460	415
2004	465	460
2005	475	470
2006	485	480
2002-2006	2,335	1,905
2002-2011	4,905	4,425

SPENDING CATEGORY:

Discretionary

The Senior Community Service Employment Program (SCSEP) funds part-time jobs for people age 55 and older who are unemployed and who meet income eligibility guidelines. To be eligible to participate in the program in 2000, an individual's annual income had to be below $10,440, which was 125 percent of the federal poverty guideline for a person living alone. SCSEP grants are awarded to several nonprofit organizations, the U.S. Forest Service, and state agencies. The sponsoring organizations and agencies pay participants to work in part-time community service jobs, up to a maximum of 1,300 hours per year.

SCSEP participants work in schools, hospitals, and senior citizen centers and on beautification and conservation projects. They are paid the higher of the federal or state minimum wage or the local prevailing rate of pay for similar employment. Participants also receive annual physical examinations, training, personal and job-related counseling, and assistance to move into private-sector jobs when they complete their projects.

Eliminating SCSEP would save $4 billion relative to current appropriations over the 2002-2011 period and $4.4 billion relative to current appropriations adjusted for inflation. Opponents of the program maintain that it offers few benefits aside from income support and that the presumed value of the work experience gained by SCSEP participants would generally be greater if the experience was provided to equally disadvantaged young people, who have longer careers over which to benefit. In addition, the costs of producing the services now provided by SCSEP participants could be borne by the organizations that benefit from their work; under current law, those organizations bear only 10 percent of such costs. That shift would ensure that only those services that were most highly valued would be provided.

SCSEP, however, is the major federal jobs program aimed at low-income older workers, providing jobs for nearly 100,000 of them in 1998. Eliminating the program could cause hardship for older workers who were unable to find comparable unsubsidized jobs. In general, older workers are less likely than younger workers to be unemployed, but those who are take longer to find work. Moreover, without SCSEP, community services might be reduced if nonprofit organizations and states were unwilling or unable to increase expenditures to offset the loss of federal funds.

500-13 Eliminate Funding for the National and Community Service Act

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	445	50
2003	460	150
2004	470	315
2005	475	370
2006	475	420
2002-2006	2,325	1,305
2002-2011	4,735	3,595
Relative to Inflated Appropriations		
2002	455	55
2003	485	155
2004	500	330
2005	515	390
2006	530	450
2002-2006	2,485	1,380
2002-2011	5,325	3,970

SPENDING CATEGORY:

Discretionary

As a reward for providing community service, students may receive aid from the federal government to attend postsecondary schools through the National and Community Service Act. The act funds the Corporation for National and Community Service, which administers the AmeriCorps Grants Program, the National Civilian Community Corps (NCCC), Learn and Serve America, and the Points of Light Foundation, with AmeriCorps receiving the majority of the total appropriation. Those programs provide assistance for education, public safety, the environment, and health care, among other services. State and local governments and private enterprises contribute additional funds to AmeriCorps to carry out service projects that, in many cases, build on existing federal, state, and local programs.

In addition to providing financial resources, the corporation recruits participants to carry out service projects. AmeriCorps and NCCC provide participants with an educational allowance, a stipend for living expenses, and, if needed, health insurance and child care. Learn and Serve America participants generally do not receive stipends or education awards but may receive academic credit toward their degrees.

Eliminating federal funding for programs funded under the National and Community Service Act would save $3.6 billion over the 2002-2011 period relative to current appropriations and $4 billion relative to current appropriations adjusted for inflation. (The estimate includes costs associated with terminating the programs.) Alternatively, some of the savings from eliminating the programs could be redirected to the Federal Pell Grant Program, which more closely targets low-income students.

Some critics who favor eliminating the programs maintain that community service should be voluntary rather than an activity for which a person is paid. An additional justification for this option is based on the view that the main goal of federal aid to students should be to provide access to postsecondary education for people with low income. Because participation in the programs is not based on family income or assets, funds do not necessarily go to the poorest students.

Supporters of the programs argue, however, that these programs enable many students to attend postsecondary schools. They also provide opportunities for participants to engage in national service, which can promote a sense of idealism among young people. In addition to providing valuable services, these programs broaden the network of sponsors and strategies and encourage nonfederal support for service projects.

500-14 Reduce Funding for Head Start

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	933	320
2003	933	865
2004	933	916
2005	933	924
2006	933	924
2002-2006	4,665	3,948
2002-2011	9,330	8,569
Relative to Inflated Appropriations		
2002	1,039	368
2003	1,165	1,035
2004	1,289	1,209
2005	1,413	1,340
2006	1,542	1,465
2002-2006	6,449	5,416
2002-2011	16,151	14,697

SPENDING CATEGORY:

Discretionary

Since 1965, Head Start has funded grants to local agencies to provide comprehensive services to foster the development of preschool children from low-income families. The services supported by Head Start address the health, education, and nutrition of the children as well as their social behavior. Funds are awarded to about 1,500 grantees at the discretion of the Secretary of Health and Human Services, using state allocations determined by formula. Grantees must contribute 20 percent of program costs from nonfederal funds unless they obtain a waiver. In 2000, the program served about 877,000 children, approximately 60 percent of whom were 4 years old. The average cost per child in Head Start that year was about $6,000 (compared with $7,600 per pupil spent by public elementary and secondary schools).

Reducing the appropriation for Head Start in 2002 and in subsequent years to its level for program year 2000-2001 would reduce federal costs by $8.6 billion relative to current appropriations over the 2002-2011 period and by nearly $15 billion relative to current appropriations adjusted for inflation. By 2011, program spending would be 29 percent below the 2001 level adjusted for inflation.

The primary argument for reducing funding for Head Start is that there is little evidence of the program's long-term effectiveness. The evidence that does exist suggests that Head Start provides measurable short- and medium-term improvements in the advancement of its participants but that those gains fade over the long term. Although the program produces gains in children's intellectual, emotional, and social development after they have been in it for a year, those gains diminish and disappear as participants move through elementary school. Some model early-childhood education efforts have provided evidence of long-term improvement in the lives of participants, but those projects were more intensive—and expensive—than Head Start and were initiated several decades ago, when the social environment of the country, especially in urban areas, was different. Furthermore, Head Start enrollment and funding have expanded rapidly during the 1990s, and some people question the ability of the program to effectively absorb the additional funds and students. Concerns have been raised as well about the quality of the program's services, including the limited qualifications of some staff.

The main argument against reducing the appropriation for Head Start is that it appears to modestly lessen the probability that participants will be placed in special education programs and to increase the likelihood that students will be promoted to higher grades. Proponents also argue that Head Start enrolls the most severely disadvantaged children and consequently should be credited with preventing participants from falling even further behind in their cognitive, social, and emotional development before they enter elementary school. An additional argument for not cutting Head Start funding is that the program has taken several steps to improve the quality of services that its grantees provide. For example, nearly 50 percent of the increase in appropriations for 2001 must be used for quality improvement activities. A new data collection system is also being developed to produce longitudinal data on a nationally representative sample of participants.

500-15 Reduce the 50 Percent Floor on the Federal Share of Foster Care and Adoption Assistance Payments

	Savings (Millions of dollars) Budget Authority	Outlays
2002	115	95
2003	125	125
2004	135	135
2005	145	145
2006	155	155
2002-2006	675	655
2002-2011	1,650	1,615

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

500-16

The Foster Care and Adoption Assistance programs are entitlement programs required of states that participate in Temporary Assistance for Needy Families (TANF). Foster Care maintenance payments support eligible children who must reside in foster care homes or facilities. Maintenance payments for Adoption Assistance are made to parents who adopt eligible children with special needs, as defined by the states.

The federal government and the states jointly pay for the benefits provided by the two programs. The state and federal shares are based on the federal matching rate for medical assistance programs, which depends on a state's per capita income. Higher-income states pay for a larger share of program benefits than do lower-income states. Currently, the federal share for the Foster Care and Adoption Assistance programs can vary between 50 percent and 83 percent. In fiscal year 2002, the federal government will pay a 50 percent share in 12 jurisdictions: Colorado, Connecticut, Delaware, the District of Columbia, Illinois, Maryland, Massachusetts, Minnesota, Nevada, New Hampshire, New Jersey, and New York.

This option would lower the floor on the federal share of benefits from 50 percent to 45 percent. As a result, the federal matching rate for six of the 12 jurisdictions would fall by the full five percentage points. The reductions for the other six states would be smaller because their matching rates, as calculated by the federal formula, would be above the proposed floor. The Congressional Budget Office estimates that this option would save \$95 million in 2002 and about \$1.6 billion through 2011. Those amounts assume that states would partially offset their higher costs by reducing benefits.

Under this option, state and federal shares of payments would better reflect states' per capita income. Higher-income states that chose to be relatively generous would become responsible for a larger share of their higher benefits than would lower-income states.

In part, however, higher incomes and benefits in the affected jurisdictions reflect higher costs of living and not simply greater wealth and generosity. To accommodate the drop in funding, the jurisdictions would have to reduce Foster Care and Adoption Assistance benefits, cut spending for other services, or raise taxes. If, as CBO's estimates assume, states chose to compensate for their higher costs by partially reducing benefits, the programs' beneficiaries would be adversely affected.

Under the Unfunded Mandates Reform Act of 1995, reductions in federal funding for certain entitlement grant programs—including Foster Care and Adoption Assistance—are considered mandates on state governments if the states lack authority to amend their programmatic or financial responsibilities to offset the loss of funding. Because some states may not have sufficient flexibility within the Foster Care and Adoption Assistance programs to make such changes, this option could constitute an unfunded federal mandate on those jurisdictions under the law.

500-16 Reduce the Federal Matching Rate for Administrative and Training Costs in the Foster Care and Adoption Assistance Programs

	Savings (Millions of dollars)	
	Budget Authority	Outlays
2002	160	130
2003	170	165
2004	180	180
2005	190	190
2006	205	200
2002-2006	905	865
2002-2011	2,130	2,075

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

500-15

The Foster Care and Adoption Assistance programs provide benefits and services to eligible low-income children and families. The federal government pays 50 percent of most administrative costs for the programs, including those for child placement services, and states and local governments pay the remaining share. However, the costs of certain activities are matched at higher rates to induce local administrators to undertake more of them than they would if costs were matched at the 50 percent rate. For example, the federal government pays 75 percent of the costs of training administrators and participating parents.

Reducing the matching rates to 50 percent for all administrative and training expenses in the Foster Care and Adoption Assistance programs would decrease federal outlays by $130 million in 2002 and by almost $2.1 billion over the 2002-2011 period.

Given that the matching rate for training and related expenses has been in place for many years, it is unclear whether states require the higher rate to provide those services. Therefore, reducing the matching rate to 50 percent would shed some light on states' willingness to pay a larger share of those costs, as well as bring the matching rate in line with that for administrative expenses. However, states might respond to this option by reducing their administrative efforts, which could raise program costs and offset some of the federal savings. Specifically, states might make less of an effort to eliminate waste and abuse in payments to providers. Alternatively, this proposal might encourage states to provide less training for administrators and prospective foster and adoptive parents or to reduce the payments and other services that the programs offer.

Under the Unfunded Mandates Reform Act of 1995, reductions in federal funding for certain entitlement grant programs—including Foster Care and Adoption Assistance—are considered mandates on state governments if the states lack authority to amend their programmatic or financial responsibilities to offset the loss of funding. Because some states may not have sufficient flexibility within the Foster Care and Adoption Assistance programs to make such changes, this option could constitute an unfunded federal mandate on those jurisdictions under the law.

550

Health

Budget function 550 includes federal spending for health care services, disease prevention, consumer and occupational safety, health-related research, and similar activities. The largest component of spending is the federal/state Medicaid program, which pays for health services for some low-income women, children, and elderly people as well as people with disabilities. Mandatory outlays for Medicaid increased by over 10 percent per year in the early 1990s and have risen significantly again in the past few years. CBO estimates that in 2001, the federal government will spend $130 billion on Medicaid and a total of $173 billion on function 550. Discretionary outlays make up only about $34 billion of that total, but they have more than doubled since 1990. Those outlays have grown every year of the past decade.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	16.1	18.2	19.6	20.7	22.2	22.8	23.3	25.1	26.4	30.2	33.8	38.8
Outlays												
Discretionary	14.9	16.2	18.0	19.6	20.5	22.0	22.6	23.0	24.9	26.9	30.0	33.8
Mandatory	42.9	55.0	71.5	79.8	86.6	93.4	96.8	100.9	106.6	114.1	124.5	139.2
Total	57.7	71.2	89.5	99.4	107.1	115.4	119.4	123.8	131.4	141.1	154.5	173.0
Memorandum:												
Annual Percentage Change in Discretionary Outlays		8.8	11.1	9.3	4.6	7.2	2.5	1.7	8.2	8.4	11.4	12.5

550-01 Reduce Funding for the National Health Service Corps

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	32	10
2003	32	24
2004	32	29
2005	32	32
2006	32	32
2002-2006	160	127
2002-2011	320	287
Relative to Inflated Appropriations		
2002	35	11
2003	38	27
2004	41	35
2005	43	40
2006	46	43
2002-2006	203	156
2002-2011	478	411

SPENDING CATEGORY:

Discretionary

The National Health Service Corps (NHSC), which is administered by the Health Resources and Services Administration, attempts to increase access to primary care services for people who live in designated Health Professional Shortage Areas. The Corps provides scholarships or loan repayment for health professionals in exchange for the recipients' agreeing to serve in a shortage area for a specified period. In recent years, over 2,500 health professionals have been serving with the NHSC—most of them work in underserved rural areas, but about 40 percent are in urban areas. More than half of the participants are doctors, but a substantial fraction of Corps practitioners are dentists, nurse-practitioners, or physician assistants.

This option would reduce budget authority for the NHSC by 25 percent and freeze it at the new level. Over the period from 2002 to 2011, this option would save $287 million in outlays relative to current appropriations and $411 million relative to current appropriations adjusted for inflation. This option would result in a program whose funding level in 2011 was roughly half of the 2001 level adjusted for inflation.

Although some people living in underserved areas receive greater access to health services because of the Corps, critics of the program may question whether it distributes health professionals efficiently. Concerns center on whether the services that an NHSC professional provides in an underserved area outweigh the value of the services that he or she would have provided in some other location by enough to justify the public expense of a scholarship or loan repayment. Moreover, some NHSC participants may displace other health professionals. For example, certain of the more desirable shortage areas might have been able to attract health professionals if a number of the potential patients were not already being served by Corps professionals. In addition, some observers might question whether NHSC funding represents a good return on investment. Although retention rates have increased substantially, almost half of the recruits do not remain in their underserved location beyond their obligation.

Reducing funding for the NHSC would lessen access in some underserved areas to the services provided by health professionals, although the Corps might be able to mitigate the effects of budget cuts by spending more of its resources on relatively inexpensive nonphysician providers. But even if the Corps refocused its remaining funds on nonphysician practitioners, the services of those professionals would not fully substitute for the skills and services offered by physicians. In the event of a cut in funding, community health centers, which obtain about a quarter of their physicians from the NHSC, would probably reduce their services. Moreover, lower levels of funding would probably have a disproportionate impact on people from minority groups, who constitute the majority of patients served by Corps professionals.

550-02 Reduce the Floor on the Federal Matching Rate in Medicaid

	Outlay Savings (Millions of dollars)
2002	4,060
2003	4,430
2004	4,850
2005	5,300
2006	5,800
2002-2006	24,440
2002-2011	62,630

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

550-03

The Medicaid program pays for medical assistance for certain low-income families, for low-income people who receive Supplemental Security Income, and for other low-income individuals—mostly children and pregnant women. The federal government and the states pay for the program jointly, with the federal government's share generally varying according to a formula that depends on a state's per capita income. High-income states pay for a larger share of benefits than do low-income states, but by law, the federal share can be no less than 50 percent and no more than 83 percent. In 2002, the 50 percent floor will apply to 11 states: Colorado, Connecticut, Delaware, Illinois, Maryland, Massachusetts, Minnesota, Nevada, New Hampshire, New Jersey, and New York.

Under this option, the 50 percent floor would be reduced to 45 percent, generating savings of about $4.1 billion in 2002 and $62.6 billion through 2011. (The option assumes that matching rates for other programs that are jointly funded by the federal and state governments would be unaffected, even though some programs have matching rates that are tied to the rate for Medicaid. Savings would be greater if matching rates in those programs also declined.)

Proponents of this change argue that the allocation formula does not adequately address differences in the tax bases of the states and that high-income states should bear a larger share of the cost of their programs. If the floor was reduced to 45 percent, federal contributions would be more closely related to the state's per capita income, and five of the 11 jurisdictions would still be paying less than the formula alone would require.

Opponents of reducing the 50 percent floor believe that higher incomes in the affected states partly reflect higher costs of living. If the option was adopted, those states would have to compensate for the lower matching rates by reducing Medicaid benefits, reducing expenditures for other services, or raising taxes.

550-03 Reduce the Enhanced Federal Matching Rates for Certain Administrative Functions in Medicaid

	Outlay Savings (Millions of dollars)
2002	880
2003	1,110
2004	1,200
2005	1,290
2006	1,400
2002-2006	5,880
2002-2011	14,860

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

550-02, 550-04-A, and 550-04-B

Under current law, the federal government pays part of the costs that states incur in administering their Medicaid programs. For most administrative activities, the federal matching rate is 50 percent, but that rate is higher for certain activities. For example, the federal government pays 75 percent of the costs of skilled medical professionals who are employed in Medicaid administration, 75 percent of the costs of utilization review, 90 percent of the development costs of systems for claims processing and information management, and 75 percent of the costs of operating such systems.

The purpose of enhanced matching rates is to give states incentives to develop and support particular administrative activities that the federal government considers important for the Medicaid program. But once the administrative systems are operational, there may be less reason to continue to pay higher rates. If the federal share of all Medicaid administrative costs was 50 percent, savings would be $880 million in 2002 and $14.9 billion over the 2002-2011 period.

Without the higher matching rates, states might be inclined to cut back on some activities, with adverse consequences for the quality of care and for program management. States might, for example, hire fewer nurses to conduct utilization review and oversee care in nursing homes, or they might undertake fewer improvements to their management information systems. However, if the Congress wished to protect particular administrative functions, it could maintain the higher matching rates for them while it reduced the matching rates for others.

550-04-A Restrict the Allocation of Common Administrative Costs to Medicaid

	Outlay Savings (Millions of dollars)
2002	290
2003	330
2004	390
2005	390
2006	390
2002-2006	1,790
2002-2011	3,740

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

550-03 and 550-04-B

Public assistance programs have certain administrative requirements that are common to the enrollment process, such as the collection of information on a family's income, assets, and demographic characteristics. Before the 1996 welfare reform law, the three major public assistance programs—Aid to Families with Dependent Children (AFDC), Food Stamps, and Medicaid—all reimbursed states for 50 percent of most of their administrative costs. But states usually charged the common administrative costs of those programs to AFDC.

The welfare reform law replaced AFDC and some related programs with the Temporary Assistance for Needy Families (TANF) block-grant program. The block grants that states receive are based on historical federal welfare expenditures, including administrative costs. Thus, insofar as states had previously paid for the common administrative costs of public assistance programs out of AFDC funds, those amounts are now included in their block grants. Although the welfare reform act is silent about the cost allocation process, the Department of Health and Human Services requires states to charge part of the common administrative costs of Medicaid and TANF to Medicaid, even if those costs are already included in the states' TANF block grants.

This option would reduce federal reimbursement for Medicaid administrative costs to reflect the share of those costs that are assumed to be covered by the TANF block grant; it would also prohibit states from using TANF funds to pay for those costs. The amount of the reduction would be about one-third of the common costs of administering the Medicaid, AFDC, and Food Stamp programs that were charged to AFDC during the base period used for determining the amount of the TANF block grant. (A similar adjustment has already been made in the amount the federal government pays the states for the administrative costs of the Food Stamp program.) Savings would be $290 million in 2002 and $3.7 billion over the 2002-2011 period. If the policy permitted the states to use TANF funds to pay for those costs, savings would be $100 million in 2002 and $3.6 billion over the 2002-2011 period.

The reductions in federal reimbursements, however, would come at a time when states were attempting to expand their outreach activities to enroll more eligible children in Medicaid and the State Children's Health Insurance Program. Reducing those payments might result in fewer eligible people being enrolled in Medicaid.

550-04-B Reduce Spending for Medicaid Administration

	Outlay Savings (Millions of dollars)
2002	2,250
2003	2,670
2004	3,010
2005	3,400
2006	3,820
2002-2006	15,150
2002-2011	42,280

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

550-03 and 550-04-A

An alternative strategy to limit federal payments for Medicaid's common administrative costs would base those payments to the states on matching payments for administrative costs in the period before the Temporary Assistance for Needy Families (TANF) block-grant program was established. Under this option, the federal government would cap the amount per enrollee that it paid the states for Medicaid administration. The per capita limit would grow at 5 percent a year from the base-year amount, which would be the administrative costs per enrollee for which the states claimed matching payments in 1996. Savings would be $2.3 billion in 2002 and $42.3 billion over the 2002-2011 period.

Using this approach, states that before TANF's implementation allocated Medicaid's common administrative costs to the Aid to Families with Dependent Children program would not have those costs included in their projected Medicaid administrative costs. But states that claimed those costs through the Medicaid program would have them built into their Medicaid administrative cost base. The option would generate large savings because the actual average rate of growth of administrative costs was more than 5 percent a year in the 1996-2000 period and is also projected to exceed 5 percent in 2001 and later years.

550-05 Convert Medicaid and Medicare DSH Payments into a Block Grant

	Outlay Savings (Millions of dollars)
2002	1,320
2003	1,230
2004	1,440
2005	1,670
2006	2,040
2002-2006	7,700
2002-2011	23,400

SPENDING CATEGORY:

Mandatory

Under current law, states are required to adjust Medicaid payments to hospitals that treat large numbers of low-income and Medicaid patients, which are known as disproportionate share (DSH) hospitals. During the past decade, states used creative financing mechanisms to generate large federal matching payments through the DSH program, and federal DSH costs soared. The Congress enacted a series of restrictions on DSH payments, culminating in those in the Balanced Budget Act of 1997 (BBA). Federal outlays for Medicaid DSH payments were $8.4 billion in 2000 and are projected to rise to $9.1 billion by 2006.

In addition to Medicaid DSH payments, hospitals that serve a disproportionately large share of low-income patients may also receive higher payment rates under Medicare's prospective payment system. Implemented in 1986, the Medicare disproportionate share adjustment was intended to account for the presumably higher costs of treating Medicare patients in such hospitals. Recently, however, the adjustment has been seen more as a means to protect access to care for Medicare and low-income populations by providing financial support to hospitals serving large numbers of low-income patients. Outlays for Medicare DSH payments rose rapidly between 1989 and 1997, reaching $4.5 billion in 1997. Reductions have been made in DSH payments since the BBA; as a result, payments in 2002 will be $5.1 billion.

An alternative approach to providing federal financial support for health care institutions that serve the poor and uninsured would be to convert the current Medicaid and Medicare disproportionate share programs into block grants to the states. The grants could be constrained to grow more slowly than DSH payments would have grown under current law. In exchange for slower growth, states could be given flexibility to use the funds to meet the needs of their low-income uninsured populations in the most cost-effective ways.

Under this illustrative option, which assumes a maintenance-of-effort requirement for states, the aggregate block grant in 2002 would be the sum of Medicare DSH payments and Medicaid DSH allotments for 2001, reduced by 10 percent. In subsequent years, the block grant would be indexed to the increase in the consumer price index for urban consumers less 1 percentage point. Additional savings would accrue to Medicare because lower DSH payments would reduce payment updates to plans participating in Medicare+Choice. Total savings would be $1.3 billion in 2002 and $23.4 billion for the 2002-2011 period.

Giving the states more discretion in allocating DSH payments could result in those funds being targeted more appropriately and equitably to facilities and providers that serve low-income populations. But allowing the states to allocate the payments could cause some large urban hospitals to receive less public funding than they do now. Under the current system, the extent to which DSH payments translate into services for low-income patients is uncertain. A recent study suggests that state and local governments reduce their subsidies to disproportionate share hospitals by an amount equal to federal DSH payments.

550-06 Change Medicaid's Formula for Rebates on Prescription Drugs

	Outlay Savings (Millions of dollars)
2002	400
2003	380
2004	360
2005	390
2006	440
2002-2006	1,970
2002-2011	5,060

SPENDING CATEGORY:

Mandatory

Medicaid's expenditures for prescription drugs have increased rapidly in recent years, reaching $20 billion in 2000. State Medicaid agencies pay pharmacies amounts that are based on each drug's posted average wholesale price (AWP), which is a list price published by the manufacturer. Medicaid recoups about 20 percent of those expenditures through rebates paid by drug manufacturers. The amount of the rebate is based in part on the average manufacturer's price (AMP) of the drug, which is the average price the manufacturer actually receives for drugs distributed to retail pharmacies. Manufacturers of brand-name drugs generally must rebate the larger of a fixed percentage of the AMP or the difference between the AMP and the best price at which they sell the product. Makers of generic drugs must pay a fixed percentage of the AMP.

Because Medicaid payments to pharmacies depend on prices published by manufacturers, increases in those prices directly raise expenditures without increasing rebate amounts. Manufacturers of generic drugs, who must compete for pharmacies' business, have an incentive to sell to pharmacies at a low price but to publish a high AWP. Manufacturers of brand-name drugs also suffer no penalties for raising average wholesale prices. To counteract the effects of higher list prices and decrease Medicaid costs, this option would substitute the average wholesale price for the average manufacturer's price in calculating the fixed-percentage formulas. This option would also eliminate the best-price rebates for brand-name drugs and reduce the fixed-percentage rebate for generic manufacturers from 11 percent to 5 percent.

The Congressional Budget Office estimates that the net effect of those changes would be to reduce mandatory federal spending by $400 million in 2002 and by $5 billion over the 2002-2011 period. Effects on the cost of pharmacy benefits paid for by discretionary programs would be small.

The main advantage of this option is that Medicaid costs would be reduced. A secondary advantage is that manufacturers would pay a higher rebate whenever they raised average wholesale prices. That extra payment might discourage manufacturers from raising list prices as much as they might otherwise. Eliminating the best-price rebates would probably lead to higher rebates for private-sector health maintenance organizations and managed pharmacy plans. However, manufacturers might charge higher prices to pharmacies in attempts to recoup their costs. As pharmacies experienced those higher costs of acquiring drugs, they would raise prices to private customers. All of those effects could change the cost of medical benefits paid by employers. The net direction of the effect on federal revenues is uncertain.

Pharmacies might also pressure state Medicaid agencies for higher reimbursement rates. To the extent that they were successful in receiving higher reimbursements from the states, the savings in Medicaid outlays would diminish over time. CBO's estimate takes into account that possibility. If unsuccessful, some pharmacies might refuse to participate in Medicaid or might close outlets with high concentrations of Medicaid beneficiaries.

550-07 Reduce Subsidies for Health Professions Education

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	244	75
2003	244	180
2004	244	220
2005	244	240
2006	244	240
2002-2006	1,220	950
2002-2011	2,440	2,145
Relative to Inflated Appropriations		
2002	250	75
2003	255	185
2004	260	230
2005	265	255
2006	270	260
2002-2006	1,300	1,005
2002-2011	2,730	2,380

SPENDING CATEGORY:

Discretionary

The Congress provided $244 million to the Public Health Service in 2001 to fund subsidies to institutions for educating physicians, nurses, and public health professionals. Those funds primarily furnish support through grants and contracts to schools and hospitals for designated training programs in the health professions. The programs promote primary care and community-based training for physicians and other health professionals as well as nursing education:

- *Primary care and community-based training.* Several programs provide federal grants to medical schools, teaching hospitals, and other training centers to develop, expand, or improve graduate medical education in primary care specialties and other allied health fields and to encourage practice in rural and low-income urban areas. Funding for 2001 is $167 million.

- *Nursing education.* The subsidies to nursing schools are meant to promote nursing education, including graduate training for nurse administrators, educators, and nursing specialists such as nurse-midwives and nurse-practitioners. Funding for 2001 is $77 million.

Over the period of 2002 to 2011, eliminating those grants and subsidies would save $2.1 billion in outlays relative to current appropriations and $2.4 billion relative to current appropriations adjusted for inflation.

The principal justification for this option is that market forces provide strong incentives for people to seek training and jobs in the health professions. Over the past several decades, the number of physicians—the principal health profession targeted by the subsidies—has rapidly increased, rising from 142 physicians in all fields for every 100,000 people in 1960 to 285 in 1999. In the case of nurses, if a shortage existed, higher wages and better working conditions would attract more people to the profession and more trained nurses to nursing jobs, and would encourage more of them to seek advanced training.

The major disadvantage of eliminating the subsidies is that the incentives supplied by market forces may not be strong enough to entirely achieve the desired manpower levels. For example, third-party reimbursement rates for primary care may not encourage enough physicians to enter those specialties and may not include sufficient financial inducements to increase access to care in rural and inner-city areas. In addition, fewer people might choose advanced training in nursing, which could limit the opportunities to use relatively inexpensive physician substitutes.

550-08 Combine and Reduce Public Health Service Grants

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	520	170
2003	520	435
2004	520	485
2005	520	505
2006	520	510
2002-2006	2,600	2,110
2002-2011	5,200	4,670
Relative to Inflated Appropriations		
2002	640	210
2003	750	570
2004	855	725
2005	965	855
2006	1,080	965
2002-2006	4,290	3,325
2002-2011	11,445	9,875

SPENDING CATEGORY:

Discretionary

In its appropriations for 2001, the Congress provided about $5.2 billion for nine grant programs administered by the Health Resources and Services Administration (HRSA), the Centers for Disease Control and Prevention (CDC), and the Substance Abuse and Mental Health Services Administration (SAMHSA). Four of the nine programs—the Maternal and Child Health Care Block Grant, HIV Care Grants to States, the Family Planning Block Grant, and the Healthy Start Initiative—are administered by HRSA. Those grants support programs that provide child health services, including immunizations, well-child examinations, and services for children with special health care needs; medical care and social support services for people who have been diagnosed with the human immunodeficiency virus; family planning services; and efforts to reduce infant mortality. CDC administers the Preventive Health and Health Services Block Grant, which is distributed to the states for programs that support Healthy People 2010, the nation's objectives for promoting health and preventing disease.

The remaining four grants—the Substance Abuse Performance Partnership Block Grant, the Mental Health Performance Partnership Block Grant, the Projects for Assistance in Transition from Homelessness (PATH) program, and the Protection and Advocacy Program—are administered by SAMHSA. The grants support substance abuse prevention programs, community-based mental health services for adults with serious mental illnesses and children with severe emotional disturbances, services for people with mental illness or substance abuse disorders who are also either homeless or at risk of becoming homeless, and programs that investigate allegations of abuse and neglect in facilities that provide care for people with mental illness.

This option would combine these funds into two large grants and reduce budget authority to 90 percent of the 2001 level. The grants currently administered by HRSA and CDC would be combined and administered by HRSA, and the grants currently administered by SAMHSA would be combined and administered by that agency. Over the period from 2002 to 2011, this option would save about $4.7 billion in outlays relative to current appropriations and $9.9 billion relative to current appropriations adjusted for inflation. This option would result in a program whose funding level in 2011 was 26 percent of the 2001 level adjusted for inflation.

The principal justification for this option is that each state also would be given added flexibility to direct the grant funds toward programs that the state considers likely to have the most favorable impact. Conditions vary substantially by state, yet grant requirements often compel states to devote resources to programs that may or may not meet a given state's needs. By reducing funds for lower-priority programs, states could allocate additional resources to programs that they considered more important.

The option's major disadvantage is that improved flexibility might not entirely make up for the 10 percent cut in federal funds for state programs. The states would have to make difficult decisions to trim programs that benefited vulnerable population groups. Alternatively, if reducing resources was not feasible, they might have to raise state taxes or cut other state programs.

550-09 Adopt a Voucher Plan for the Federal Employees Health Benefits Program

	Savings[a] (Millions of dollars) Discre-tionary[b]	Manda-tory
2002	300	200
2003	600	500
2004	1,000	800
2005	1,400	1,100
2006	1,800	1,400
2002-2006	5,100	4,000
2002-2011	21,500	17,400

a. Estimates do not include any savings realized by the U.S. Postal Service.

b. Savings measured from the 2001 funding level adjusted for premium increases and changes in employment.

SPENDING CATEGORIES:

Discretionary and mandatory

RELATED OPTION:

550-10

RELATED CBO PUBLICATION:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

The Federal Employees Health Benefits (FEHB) program provides health insurance coverage for over 4 million active federal employees and annuitants, as well as for their 4.6 million dependents and survivors, at a cost to the government of almost $15 billion in 2001. The cost-sharing structure of the FEHB program encourages federal employees to switch from high-cost to lower-cost plans to blunt the effects of rising premiums; cost sharing also intensifies competitive pressures on all participating plans to hold down premiums. The Balanced Budget Act of 1997 set the federal government's share of premiums for employees and annuitants (including family coverage) at 72 percent of the average weighted premium of all plans beginning January 1, 1999. (The employer's costs are higher under the U.S. Postal Service's collective bargaining agreement.) The act still requires policyholders to pay at least 25 percent of the premium of any particular plan. (Since October 1, 2000, employees' premiums have come out of pretax income, a benefit long enjoyed by employees in the private sector.)

To reduce expenditures, the government could offer a flat voucher for health insurance premiums. It could pay the first $2,400 of premiums for employees and retirees ($5,500 for family coverage). Those amounts are based on the government's average expected contribution for nonpostal employees in 2001 and would increase annually by the rate of inflation rather than by the average weighted rate of change for premiums in the FEHB program. Budgetary savings would come from indexing the premiums to inflation rather than to the growth of premiums, which the Congressional Budget Office expects will rise at a rate more than twice that of inflation. Savings in discretionary spending from lower payments for current employees and their dependents would begin to accrue after the first year of implementation and would total $5.1 billion over five years and $21.5 billion over 10 years. Savings in mandatory spending from reduced payments for retirees would be $4.0 billion over five years and $17.4 billion over 10 years.

This option would strengthen price competition among health plans in the FEHB program because almost all current enrollees would be faced with paying all of the incremental premiums above the voucher amount. In addition, removing the requirement that enrollees pay at least 25 percent of the premiums should increase price competition among low-cost plans to attract participants. In the lowest-cost plans, the government would pay almost the entire premium.

On the downside, participants would pay an ever-increasing share of their premiums—possibly over 40 percent by 2006—if premiums rose as expected. The added cost to enrollees could exceed $800 per worker in 2006 and more in later years. Currently, large private-sector plans provide better health benefits for their employees—although not for their retirees—which might make it harder for the government to attract and retain high-quality workers. (Recent increases in the FEHB program's coverage for mental health and substance abuse services might narrow the differences with private-sector plans.) In addition, for current retirees and long-time federal workers, the option would cut benefits that have already been earned. Finally, the option could strengthen existing incentives for plans to structure benefits to disproportionately attract people with lower than average health care costs. That "adverse selection" could destabilize other plans.

550-10 Base Retirees' Health Benefits on Length of Service

	Savings[a] (Millions of dollars) Budget Authority	Outlays
2002	60	60
2003	120	120
2004	190	190
2005	250	250
2006	330	330
2002-2006	950	950
2002-2011	4,050	4,050

a. Estimates do not include any savings realized by the U.S. Postal Service.

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

550-09

RELATED CBO PUBLICATION:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

Federal retirees are generally eligible to continue receiving benefits from the Federal Employees Health Benefits (FEHB) program if they have been participants during their last five years of service and are eligible to receive an immediate annuity. About 80 percent of eligible new retirees elect to receive health benefits. After age 65, the FEHB program's benefits are coordinated with those of Medicare; the program pays amounts not covered by Medicare (but no more than the amounts it would have paid in the absence of Medicare). Participants and the government share the cost of premiums. The government's share for annuitants and employees is 72 percent of the weighted average premium of all participating plans (up to a cap of 75 percent of the total premium). In 2001, the government expects to pay \$5.6 billion in premiums for 1.9 million annuitants and their dependents and survivors.

Under this option, federal retirees' health benefits would be reduced for those with relatively short federal careers while the right of retirees to participate in the FEHB program would be preserved. For new retirees only, the government's share of the premium could be cut by 2 percentage points for every year of service under 30. For example, the government's contribution would fall to 52 percent of the average premium for a retiree with 20 years of service. In 2000, about 55 percent of the roughly 73,000 new retirees who continued in the FEHB program had less than 30 years of service. The average new retiree affected by the proposal would pay 40 percent of the premium rather than 28 percent, an annual increase of \$900 in 2002. The estimated savings to the government in mandatory spending would total \$60 million in 2002 and \$950 million over five years. Ten-year savings would rise to \$4.1 billion. (The estimates exclude savings realized by the Postal Service because, while its retirees participate in the FEHB program, reductions in its operating costs eventually benefit only mail users.)

The option might make the government's compensation mix fairer and more efficient by improving the link between service and deferred compensation. The option would also help bring federal benefits closer to those available from private firms. Federal retirees' health benefits are significantly more generous than those offered by most large private firms, which have been aggressively paring and, in some cases, eliminating retirees' health benefits in recent years. A survey of all U.S. employers found that fewer than half provide medical benefits to retirees. Moreover, of those companies still offering such benefits, some are no longer promising open-ended health benefits for retirees but are instead promising to make fixed dollar contributions to insurance coverage.

A negative aspect of the option is that it would mean a substantial cut in benefits whose effects would be felt most strongly by the roughly 20 percent of new retirees with less than 20 years of service. The option could also encourage some employees with short service careers to delay retirement, whereas others might accelerate retirement plans to avoid the new rules.

550-11 Establish User Fees for New Medical Devices Regulated by the FDA

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	28	28
2003	48	48
2004	41	41
2005	42	42
2006	44	44
2002-2006	203	203
2002-2011	448	448
Relative to Inflated Appropriations		
2002	28	28
2003	48	48
2004	41	41
2005	42	42
2006	44	44
2002-2006	203	203
2002-2011	448	448

SPENDING CATEGORY:

Discretionary

The Prescription Drug User Fee Act of 1992 (PDUFA) authorized the Food and Drug Administration (FDA) to collect fees from pharmaceutical manufacturers to help speed up the review of applications for the marketing and approval of new drugs. The Food and Drug Administration Modernization Act of 1997 reauthorized the PDUFA program but did not address user fees for medical devices. The Congress considered but did not pass legislation authorizing user fees for medical devices in 1994. The Clinton Administration's 2001 budget included a proposal to impose user fees on medical devices as well as on other products regulated by the FDA.

Manufacturers must notify the FDA before they market any new medical device, and for certain products, they must obtain approval before marketing them. Establishing fees of $7,000 for each new medical device requiring premarket notification, $3,500 for those devices qualifying for abbreviated or special notification processes, $60,000 for each new medical device needing premarket approval, and $7,000 for each application for a supplemental premarket approval would raise $28 million in 2002 and $448 million during the 2002-2011 period. Taken together, those fees would ultimately constitute about 30 percent of the cost of regulating medical devices. The estimates assume that only a few exemptions would be granted for small businesses or devices with very small markets.

Establishing user fees for new medical devices would require new authorizing legislation. To generate budgetary savings, that legislation would have to permit user fee collections to offset other FDA appropriations for salaries and expenses. PDUFA does not permit that offset for prescription drug user fees.

Proponents of user fees for medical devices argue that regulatory activities benefit consumers as well as industry. The FDA's primary function is to ensure public safety by monitoring the quality of pharmaceutical products, medical devices, and food. Firms benefit from the public confidence that results from the FDA's regulation, those proponents maintain, and should therefore bear a share of the costs of those activities.

People who oppose levying user fees on new medical devices might argue that the agency's current oversight of medical devices is excessive and unnecessary. Rather than adding user fees, those opponents might contend that the FDA could cut costs by scaling back its regulatory requirements.

570

Medicare

Budget function 570 comprises spending for Medicare, the federal health insurance program for elderly and eligible disabled people. Medicare consists of two parts, each tied to a trust fund. Hospital Insurance (Part A) reimburses providers for inpatient care that beneficiaries receive in hospitals, as well as care at skilled nursing facilities, home health care related to a hospital stay, and hospice services. Supplementary Medical Insurance (Part B) pays for physicians' services, outpatient services at hospitals, home health care, and other services. CBO estimates that Medicare outlays (net of premiums paid by beneficiaries) will total $217.7 billion in 2001. That amount includes discretionary outlays of $3.3 billion, which are for the administrative expenses of operating the Medicare program.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	2.4	2.6	2.9	2.8	3.0	3.0	2.9	2.6	2.7	2.8	3.0	3.4
Outlays												
Discretionary	2.3	2.4	2.8	2.7	2.9	3.0	3.0	2.6	2.6	2.8	3.0	3.3
Mandatory	95.8	102.0	116.2	127.9	141.8	156.9	171.3	187.4	190.2	187.7	194.1	214.4
Total	98.1	104.5	119.0	130.6	144.7	159.9	174.2	190.0	192.8	190.4	197.1	217.7
Memorandum:												
Annual Percentage Change in Discretionary Outlays		6.3	16.4	-6.9	10.0	2.0	-0.6	-12.8	0.5	6.3	8.9	9.0

570-01 Reduce Medicare's Payments for the Indirect Costs of Patient Care That Are Related to Hospitals' Teaching Programs

	Outlay Savings (Millions of dollars)
2002	2,300
2003	1,800
2004	1,900
2005	2,100
2006	2,300
2002-2006	10,400
2002-2011	25,500

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-02, 570-03, and 570-04

RELATED CBO PUBLICATION:

Medicare and Graduate Medical Education (Study), September 1995.

The Social Security Amendments of 1983 established the prospective payment system (PPS) under which Medicare pays hospitals for inpatient services provided to beneficiaries. Higher rates are paid to hospitals with teaching programs to cover their higher costs of caring for Medicare patients. Under the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000, the additional percentage paid to teaching hospitals in 2001 will average approximately 6.5 percent for each increase of 0.1 in a hospital's ratio of full-time interns and residents to its number of beds. Beginning in 2003, hospitals will receive 5.5 percent more for every 0.1 increase in the resident-to-bed ratio. (Under the Balanced Budget Refinement Act of 1999, teaching hospitals would have received 6.25 percent more in 2001 and 5.5 percent more in 2002 and subsequent years for each 0.1 increase in the ratio.)

The Congress enacted the additional payments to teaching hospitals to compensate them for indirect teaching costs—such as the greater number of tests and procedures thought to be prescribed by interns and residents—and to cover higher costs from factors that are not otherwise accounted for in setting the PPS rates. Such factors might include more severely ill patients, a hospital's location in the inner city, and a more costly mix of staffing and facilities, all of which are associated with large teaching programs.

An alternative approach would combine Medicare's current additional payments to teaching hospitals into a single adjustment to PPS payments for patient care, to recognize that expenses for training represent patient care costs. The Medicare Payment Advisory Commission has considered various alternatives for combining those payments. The commission has estimated that a 3.2 percent adjustment to Medicare's payments would more closely match the increase in operating costs associated with teaching. If the teaching adjustment was lowered accordingly, outlays would fall by about $10.4 billion from current-law spending over the 2002-2006 period and by about $25.5 billion over the 2002-2011 period.

This option would better align payments with the actual costs incurred by teaching institutions. Furthermore, since the training that medical residents receive will result in a significant increase in their future income and since hospitals benefit from using residents' labor, it is reasonable for some or all of a hospital's indirect training costs to be borne by both residents and the hospital. Some of those costs are now passed on in the form of stipends that are lower than the value of the residents' services to the hospital. A lower teaching adjustment would probably lead to even lower stipends, however, as well as smaller residency programs. An additional consideration is that if the teaching hospitals now use some payments to fund activities such as charity care, people without health insurance could have less access to health services under this option.

570-02 Reduce Medicare's Direct Payments for Medical Education

	Outlay Savings (Millions of dollars)
2002	1,100
2003	1,200
2004	1,200
2005	1,300
2006	1,300
2002-2006	6,200
2002-2011	13,000

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-01, 570-03, and 570-04

RELATED CBO PUBLICATION:

Medicare and Graduate Medical Education (Study), September 1995.

Medicare's prospective payment system does not include payments to hospitals for the direct costs they incur in providing graduate medical education (GME)—namely, residents' salaries and fringe benefits, teaching costs, and institutional overhead. Instead, Medicare makes those payments separately on the basis of its share of a hospital's 1984 cost per resident indexed for increases in the level of consumer prices. Medicare's direct GME payments, which are received by about one-fifth of all U.S. hospitals, totaled about $2.3 billion for 2000.

Under this option, hospitals' direct GME payments would be based on 120 percent of the national average salary paid to residents in 1987, updated annually by the consumer price index for all urban consumers. In effect, this option would reduce teaching and overhead payments for residents but continue to pay their salaries and fringe benefits. The option would also continue the current-law practice of reducing payments for residents who have gone beyond their initial residency period. The savings from current-law spending would total about $6.2 billion over the 2002-2006 period and about $13 billion over the 2002-2011 period. Unlike the current system, under which GME payments vary considerably from hospital to hospital, this option would pay every hospital the same amount for the same type of resident. (Although the Congress took action in 1999 and in 2000 to lessen some of the variation among hospitals in payments per resident, considerable differences remain under current law.)

An overall reduction in the level of subsidies to medical education might be warranted since market incentives appear to be sufficient to encourage a continuing flow of new physicians. Moreover, since hospitals use resident physicians to care for patients and since residency training helps young physicians earn higher incomes in the future, both hospitals and residents might reasonably contribute more to those training costs than under current practices. Residents would contribute more to those costs if hospitals responded to the changes in reimbursements by cutting residents' salaries or fringe benefits.

If hospitals lowered residents' salaries or benefits, the costs of longer residencies—in terms of forgone practice income—could exert greater influence on the young physicians' decisions about pursuing a specialty. More residents might choose to begin primary care practice rather than specialize further. That outcome could be negative for the individual resident; by contrast, the Council on Graduate Medical Education and other groups believe that a relative increase in the number of primary care practitioners would be desirable. Finally, decreasing GME reimbursement could force some hospitals to reduce the resources they commit to training, possibly jeopardizing the quality of their medical education programs.

570-03 Eliminate Additional Capital-Related Payments for Hospitals with Residency Programs

	Outlay Savings (Millions of dollars)
2002	300
2003	300
2004	300
2005	300
2006	300
2002-2006	1,400
2002-2011	3,000

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-01, 570-02, and 570-04

Under the prospective payment system for inpatient hospital services, Medicare pays hospitals an amount for each discharge that is intended to compensate the hospital for capital-related costs. Currently, teaching hospitals receive additional capital-related payments that are based on teaching intensity, measured as the ratio of a hospital's residents to its average daily number of inpatients. Specifically, an increase of 0.1 in that ratio raises the hospital's capital-related payment by 2.8 percent.

Eliminating those extra payments would save the Medicare program about $300 million in 2002. Five-year savings would equal roughly $1.4 billion, and savings over the 2002-2011 period would be $3 billion.

In contrast to higher operating costs, which analyses indicate are indeed associated with teaching intensity, a hospital's capital costs per case appear to be unrelated to that intensity. Furthermore, paying teaching hospitals more than nonteaching hospitals for otherwise similar patients may discourage efficient decisionmaking by hospitals. In addition, Medicare's payment adjustments for teaching intensity may distort the market for residency training by artificially increasing the value (or decreasing the cost) of residents to hospitals. If residents' training raises the costs of patient care for a hospital, arguably the hospital should bear those costs in order to encourage an efficient amount of training. Hospitals are likely to shift such costs to residents in the form of lower stipends or greater workloads. Residents will engage in such training if they perceive that their future productivity, as reflected in their future income, will be great enough to outweigh those costs.

Eliminating the special capital-related payments would, however, reduce revenues to teaching hospitals at a time when those hospitals already face pressure to reduce costs to remain competitive. Teaching hospitals would probably have to reduce some services in response to the decline in their revenues. Those reductions in services could include less provision of public goods, such as medical research, or fewer medical services for indigent people.

570-04 Convert Medicare Payments for Graduate Medical Education to a Block Grant and Slow Their Rate of Growth

	Outlay Savings (Millions of dollars)
2002	300
2003	0
2004	100
2005	300
2006	500
2002-2006	1,200
2002-2011	6,100

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-01, 570-02, and 570-03

RELATED CBO PUBLICATION:

Medicare and Graduate Medical Education (Study), September 1995.

Three types of Medicare graduate medical education (GME) payments are tied to the size or intensity of a teaching hospital's residency program: direct graduate medical education payments, the indirect medical education adjustment for inpatient operating costs, and the indirect medical education adjustment for inpatient capital-related costs. Under provisions in the Balanced Budget Act of 1997, teaching hospitals have begun to receive GME payments for participants in Medicare+Choice health plans in addition to the payments that they have traditionally received for fee-for-service Medicare patients. Several variables determine the total amount of GME payments that a hospital receives, including the number and diagnoses of Medicare discharges and numerical factors used for annually updating payments for inpatient operating costs and capital-related costs. Because of changes in those variables over time, the Congressional Budget Office expects GME payments under current law to grow at an average annual rate of 5 percent between 2002 and 2011.

This option would replace the current system with a consolidated block grant to fund the special activities of teaching hospitals. Under the current system, a hospital receives GME payments based on formulas set forth in regulations, and total Medicare GME spending is the resulting sum of what Medicare owes each hospital. The option considered here assumes that a switch to the block-grant program would occur in 2002 and that the amount of the grant would be based on spending in 2001, increased for overall inflation. Compared with projected spending under current law, federal outlays would be reduced by $1.2 billion over the first five years and $6.1 billion over the 2002-2011 period.

Establishing a block grant for the three types of GME payments would allow the Congress to better monitor and adjust that funding. Another feature of the option is that Medicare would no longer pay different rates to hospitals for inpatient services merely because of differences in the size or presence of residency programs.

However, because this option would reduce total payments to teaching hospitals below the amounts expected under current law, such hospitals would, on average, receive less revenue than they would otherwise. In response, teaching hospitals might reduce the amount or quality of some of their services or their provision of some public goods, such as medical research or care for indigent people.

570-05 Eliminate Medicare's Additional Payments to Sole Community Hospitals

	Outlay Savings (Millions of dollars)
2002	100
2003	200
2004	200
2005	200
2006	200
2002-2006	900
2002-2011	2,200

SPENDING CATEGORY:

Mandatory

Under Medicare's prospective payment system (PPS) for inpatient hospital services, special rules apply to providers designated as sole community hospitals (SCHs). There are more than 700 SCHs, constituting about one-third of all rural hospitals. Under the current rules, a hospital may be designated as an SCH if it meets specific criteria that define a sole provider of inpatient, acute care hospital services in a geographic area. In addition, some SCHs have been permitted to retain that status regardless of whether they continue to meet the current sole-provider criteria.

Payments to SCHs generally equal the highest of four amounts: the regular federal PPS payment that would otherwise apply; or an amount based on the hospital's costs in 1982, 1987, or 1996, updated to the current year. Hospitals that choose to receive the regular PPS payment—about half of all SCHs—are eligible to receive higher payment adjustments for disproportionate share status than are other rural hospitals. Hospitals that receive payments based on their updated costs are ineligible for those higher adjustments.

If all sole community hospitals received the regular PPS payment rather than their updated costs, total PPS payments would be about $100 million less in 2002 and $2.2 billion less for the 2002-2011 period. Those savings assume that SCHs would continue to be eligible for higher disproportionate share adjustments.

A primary objective of the SCH rules is to assist hospitals in locations where closings would threaten access to hospital care, but the federal support is not particularly well aimed at such essential providers. Moreover, whether an SCH actually receives higher payments under the special rules that permit payments to be based on a hospital-specific amount depends not on its current financial condition but on whether its costs in any of the specified base years (1982, 1987, or 1996) were relatively high.

If the special payment rules were eliminated, however, revenues of many sole community hospitals would be lower than under the special rules, which might cause financial distress for some hospitals. And because many SCHs are the sole providers of hospital services in their geographic areas, access to health care or the quality of care might be reduced in some rural locations.

570-06 Expand Global Payments for Hospitals' and Physicians' Services Provided During an Inpatient Stay

	Outlay Savings (Millions of dollars)
2002	100
2003	100
2004	100
2005	100
2006	100
2002-2006	600
2002-2011	1,300

SPENDING CATEGORY:

Mandatory

Hospitals receive payments under Medicare's prospective payment system (PPS) for the operating costs of providing inpatient services to the program's beneficiaries. The payments are determined on a per-case basis; payment rates vary with the patient's diagnosis, which Medicare classifies within a system of diagnosis-related groups (DRGs), and the characteristics of the hospital. Those rates take into account reasonable variations in the treatment of patients within a given DRG and offer an incentive to the hospital to reduce the cost of treatment. PPS payments do not cover all services rendered to patients during their hospital stay. In particular, Medicare pays separately for physicians' services provided on an inpatient basis.

The Health Care Financing Administration (HCFA) has explored the feasibility of making a single global payment for high-cost, high-volume inpatient procedures. That payment would be lower than the separate payments that are now made for hospitals' operating costs and physicians' services. Expanding the use of global payments would yield savings of $100 million in 2002 and $1.3 billion for the 2002-2011 period.

In a recent demonstration project involving heart bypass surgery, discounted payment rates were established through negotiations with participating hospitals in conjunction with teams of physicians. With a global payment, hospitals and physicians alike have an incentive to reduce operating costs while maintaining a satisfactory standard of care. Institutions can offset the discounts in their Medicare payments by two means: improving efficiency (with resultant cost savings) and increasing (using new marketing efforts) their volume of heart bypass patients. Medicare outlays to the seven hospitals participating in a recent five-year demonstration project averaged about 10 percent less than would have been spent otherwise.

HCFA has investigated ways to extend the global payment concept. Other high-cost, high-volume inpatient procedures that might also yield savings include cataract surgery, coronary angioplasty, heart valve replacement, and joint replacement surgery. Receiving such global payments might be attractive to hospitals, which could market themselves as "centers of excellence." However, such terminology could be controversial because it might be construed as suggesting that other hospitals did not offer high-quality care. In addition, only a modest number of institutions and high-cost procedures might become eligible for global payments.

570-07 Increase and Extend the Reductions in the Medicare PPS Market Basket

	Outlay Savings (Millions of dollars)
2002	500
2003	1,100
2004	2,400
2005	3,800
2006	5,200
2002-2006	13,000
2002-2011	54,800

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

570-08

Under Medicare's prospective payment system (PPS), payments for hospitals' operating costs for inpatient services provided to beneficiaries are determined on a per-case basis, according to preset rates that vary with the patient's diagnosis and the characteristics of the hospital. Payment rates are adjusted each year using an update factor that is determined, in part, by the projected increase in the hospital market-basket index (MBI), which reflects increases in hospital costs. Because Medicare's payments to hospitals are factored into calculations of payments for Medicare+Choice plans, changes in the MBI also affect those payments.

Under current law, the hospital update factor is MBI minus 1.1 percentage points for discharges occurring from October 1, 2000, to April 1, 2001; MBI plus 1.1 percentage points for discharges occurring from April 1, 2001, to October 1, 2001; and MBI minus 0.55 percentage points for fiscal years 2002 and 2003. After 2003, the update factor reverts to the full value of the MBI. If the factor was reduced to MBI minus 1.1 percentage points in 2002 and stayed at that level throughout the 2002-2011 period, total savings during that time would be $54.8 billion (including savings due to reduced payments to Medicare+Choice plans).

In 1997, hospitals' average profit margins on Medicare inpatient services were about 17 percent. Moreover, the Medicare Payment Advisory Commission reports that despite the payment freeze imposed by the Balanced Budget Act of 1997, the inpatient margin was 14.4 percent in 1998. Even with the reductions in the update factor from 1999 to 2002, the average PPS inpatient margin is expected to be 12.6 percent in 1999, falling to 11.2 percent by 2002. Thus, further reductions in update factors could be justified. The American Hospital Association, however, maintains that high inpatient margins reflect major efforts by hospitals to cut costs, which cannot continue indefinitely. Moreover, almost one-quarter of all hospitals have negative profit margins on Medicare inpatient services, so further reductions in payment update factors could cause considerable hardship for those facilities, especially as some hospitals are only now beginning to feel the effects of past payment reductions.

570-08 Reduce Medicare's Payments for Hospitals' Inpatient Capital-Related Costs

	Outlay Savings (Millions of dollars)
2002	400
2003	400
2004	400
2005	500
2006	500
2002-2006	2,300
2002-2011	5,100

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

570-07

In 1992, Medicare revised its method of paying hospitals for their inpatient capital-related costs by replacing cost-based reimbursement with a prospective payment method. Under the prospective system, hospitals receive a predetermined amount for each Medicare patient to pay for capital-related costs, which include depreciation, interest, taxes, insurance, and similar expenses for buildings and fixed and movable equipment. The prospective system applies to about 5,000 hospitals paid under Medicare's prospective payment system for operating costs. A hospital's prospective rate is adjusted for its mix of patients and certain other characteristics.

Analyses conducted by the Health Care Financing Administration (HCFA) suggest that the initial federal and hospital-specific rates were too high. The 1992 rates were based on actual 1989 and 1990 data (for the federal rate and hospital-specific rates, respectively) projected to 1992, but more recent data indicate that the rate of growth of capital costs between 1989 and 1992 was slower than expected. Moreover, the initial level of capital costs per case in 1989 was probably higher than would be optimal in an efficient market because of incentives provided by the Medicare payments. Factors such as changes in capital prices, the mix of patients treated by hospitals, and the "intensity" of hospital services contributed to the overestimate. Analyses by the Medicare Payment Advisory Commission and HCFA found that the overestimate ranged from 15 percent or 20 percent to 28 percent, with an average of about 22 percent.

The Balanced Budget Act of 1997 reduced the federal rate by 17.8 percent for capital payments made to hospitals for patient discharges occurring in 1998 through 2002. (A small part of that reduction, 2.1 percentage points, will be restored beginning in 2003.) A further reduction of 5 percentage points (bringing the total reduction in capital payments to about 22 percent) would yield savings of $400 million in 2002 and $5.1 billion for the 2002-2011 period.

Most hospitals would probably be able to adjust to the reductions by lowering their capital costs or partially covering them with other sources of revenue, because Medicare's payments for capital costs are a small share of hospitals' revenues—less than 5 percent of their total revenues from all sources. Hospitals that are in poor financial condition, however, might have difficulty absorbing the reductions. As a result, the quality of the care they offer might decline, and they might provide fewer services to people without insurance.

570-09 Increase the Number of Postacute Care Discharges Treated as Hospital Transfers Under Medicare

	Outlay Savings (Millions of dollars)
2002	200
2003	300
2004	300
2005	300
2006	300
2002-2006	1,400
2002-2011	3,400

SPENDING CATEGORY:

Mandatory

Medicare's prospective payment system (PPS) for inpatient hospital stays provides hospitals with payments that encompass a patient's entire stay and are based on the patient's diagnosis. The PPS amounts were developed using data on costs for an average length of stay in a hospital for each diagnostic grouping. Over time, the average length of stay has decreased, particularly for patients in certain diagnosis-related groups (DRGs) with high rates of discharge to postacute care settings, such as home health agencies and skilled nursing facilities. In turn, Medicare's payments to postacute care providers, which are based on their costs, have increased.

Medicare reduces its payment to an admitting hospital if a patient is transferred from that acute care hospital to another for related care. Full payment is made to the final discharging hospital, whereas the admitting hospital receives a per diem payment not to exceed the full amount. Beginning in October 1998, the Balanced Budget Act of 1997 applied a similar transfer policy to hospitals that discharge certain patients to postacute care settings. Specifically, hospitals receive reduced payments for patients in 10 DRGs who are transferred to a postacute care setting and whose stay in the admitting hospital is shorter than the average length of stay for that DRG.

Researchers evaluating the impact of the new policy found that average length of stay in a hospital increased slightly for the 10 DRGs subject to the new policy, while the length of stay for other DRGs continued to decline. They also found that the policy resulted in a reduction of $239 million in Medicare payments for the first half of fiscal year 1999.

This option would increase the number of DRGs to which the postacute transfer policy applies. Applying the transfer policy to the 13 additional DRGs with the next highest rates of discharge to postacute care facilities would reduce Medicare outlays by $200 million in 2002 and $3.4 billion over the 2002-2011 period. In addition to providing savings to Medicare, this option would expand the incentive to hospitals to ensure that patients are fully ready to be discharged before transferring them to a postacute care setting.

Hospitals have objected to the transfer policy even in its limited form, however, because it undermines one of the original incentives in the prospective payment system—to reduce hospital costs by discharging patients as soon as is practicable. Moreover, the policy creates an administrative burden related to verifying discharge destinations and provides incentives for hospitals to delay postacute care placements following hospital discharges, which may diminish the quality of care for some patients.

570-10 Reduce Medicare Payments for Currently Covered Prescription Drugs

	Outlay Savings (Millions of dollars)
2002	240
2003	490
2004	590
2005	700
2006	780
2002-2006	2,810
2002-2011	8,500

SPENDING CATEGORY:

Mandatory

Medicare Supplementary Medical Insurance (Part B) paid providers about $5 billion in 2000 for certain outpatient drugs. Prescription drugs are covered under Part B when they must be administered under a physician's supervision, as is the case with many drugs requiring injection or infusion. Medicare also pays for drugs that must be delivered by durable medical equipment covered under the program. In addition, some oral chemotherapy and antinausea drugs for cancer patients as well as immunosuppressive drugs for organ transplant recipients are covered, as are certain vaccines and drugs related to end-stage renal disease.

Medicare payments for covered prescription drugs delivered at home and in physicians' offices have varied over time. Since 1997, the amount Medicare has allowed as a reasonable charge has been set at 95 percent of the average wholesale price, or AWP, which is a published list price established by the manufacturer. But as a list price, the AWP is not the actual price providers pay for drugs; pegging Medicare's payment to the AWP in this way has meant that providers and suppliers could profit from administering or dispensing Medicare-covered drugs. The Inspector General of the Department of Health and Human Services has reported that actual wholesale drug prices available to physicians were about 30 percent less than the AWP in 1997.

The Health Care Financing Administration announced in September 2000 that it would permit Medicare intermediaries to use a new price schedule for 32 drugs that is based on physicians' and pharmacies' estimated costs of acquiring the drugs. However, under the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000, implementation of the price schedule may not proceed until the General Accounting Office recommends a method for establishing prices and the Secretary of Health and Human Services reviews the report. The Congressional Budget Office assumes that the new price schedule would take effect on January 1, 2002. All other drugs covered by Medicare would continue under the current payment formula.

This option would limit Medicare's reimbursements for all prescription drugs that are not on the new price schedule by reducing the allowed charge from 95 percent to 85 percent of the AWP and by limiting increases in the allowed charge for covered drugs to changes in the rate of inflation. (Changes in the allowed charge would track the consumer price index for all urban consumers, excluding food and energy.) As a result, Medicare Part B outlays would decrease by $8.5 billion between 2002 and 2011.

One disadvantage of the option is that it would encourage manufacturers to introduce new drugs at AWPs that were higher than they would otherwise be in order to restore the profit margins available to physicians and other suppliers. Physicians would prescribe newly introduced drugs more quickly as a result. Therefore, the option's effectiveness in limiting Part B spending growth would gradually erode as new drugs replaced older ones in the mix of covered drugs. Critics of the option also claim that the profit margins physicians now obtain when they administer drugs to Medicare patients subsidize the cost of drug administration. Savings would be reduced and patient care might suffer if patients were diverted from physicians' offices to hospital outpatient settings, where Medicare payment rates are higher. CBO's estimate accounts for that possibility.

570-11 Index Medicare's Deductible for SMI Services

	Outlay Savings (Millions of dollars)
2002	90
2003	290
2004	490
2005	700
2006	920
2002-2006	2,490
2002-2011	11,120

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-12-A, 570-12-B, 570-14, and 570-15

Medicare offers insurance coverage for physicians' and hospital outpatient services through the Supplementary Medical Insurance (SMI, or Part B) program. The program has a number of cost-sharing requirements. One way to achieve federal savings in SMI is to increase the deductible—that is, the amount that enrollees must pay for services each year before the government shares responsibility. The deductible is now $100 a year and has been increased only three times since Medicare began in 1966, when it was set at $50. In relation to average annual per capita charges under the SMI program, the deductible has fallen from 45 percent in 1967 to about 3 percent in 2000.

Increasing the SMI deductible for 2002 and later years according to the growth in total spending per enrollee for Part B services would save $90 million in 2002, $2.5 billion over the five-year period, and $11.1 billion over the 10-year period.

An increase in the amount of the deductible would enhance the economic incentives for prudent consumption of medical care while spreading the impact of an increase in cost sharing among most enrollees. In 2002, the deductible would be $106, so no enrollee's out-of-pocket costs would rise by more than $6 in that year.

However, over time the additional out-of-pocket costs under this option might discourage some low-income enrollees who are not eligible for Medicaid from seeking needed care. In addition, costs to states would increase because their Medicaid programs pay the deductibles for Medicare enrollees who also receive benefits under Medicaid.

570-12-A Simplify and Limit Medicare's Cost-Sharing Requirements

	Outlay Savings (Millions of dollars)
2002	220
2003	570
2004	730
2005	950
2006	1,170
2002-2006	3,640
2002-2011	13,360

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-11, 570-12-B, and 570-15

RELATED CBO PUBLICATION:

Restructuring Health Insurance for Medicare Enrollees (Study), August 1991.

Medicare's cost-sharing requirements in its fee-for-service sector are varied and difficult for beneficiaries to understand. Further, they do not accurately reflect the relative costs of alternative services. In contrast with most private insurance plans, Medicare places no limit on the cost-sharing expenses for which enrollees may be liable. As a result, most fee-for-service enrollees seek supplementary coverage (either through their employers or by purchasing individual medigap plans) to protect them from the potentially catastrophic expenses they might be left with under Medicare. Those enrollees with the nearly first-dollar coverage that medigap plans provide no longer have financial incentives to use medical services prudently. Consequently, Medicare's costs are higher than they would be if there were no medigap supplements.

Medicare could simplify and limit cost-sharing requirements in the fee-for-service sector while also reducing federal costs. For example, the current complicated mix of cost-sharing requirements could be replaced with a single deductible, a uniform coinsurance rate of 20 percent for amounts above the deductible, and a cap on each beneficiary's total cost-sharing expenses—whether they arose from Part A or Part B of the Medicare program. If those provisions were in place beginning in January 2002 with a deductible of $1,000 and a cap on total cost sharing of $2,000, federal savings would be $220 million for 2002, $3.6 billion over five years, and $13.4 billion over 10 years. Those estimates assume that both the deductible and the cap would be indexed to growth in per capita benefits paid by Medicare.

For three reasons, such changes in Medicare's cost-sharing requirements would increase the incentives for enrollees to use medical services prudently. First, because of the higher deductible, enrollees with no supplement or with a medigap plan that did not cover the deductible would face the full cost for a larger proportion of the services they used. Second, over time, fewer enrollees would purchase medigap plans because their cost-sharing expenses would be capped under Medicare. Third, the uniform coinsurance rate on all services would encourage enrollees without supplementary coverage to consider relative costs appropriately when choosing among alternative treatments.

Although this option would generally reduce out-of-pocket costs for enrollees who had serious illnesses or were hospitalized during the year, it would increase out-of-pocket costs for most enrollees. On average, enrollees' cost-sharing expenses under Medicare would increase by about $70 a year in 2002. Expenses would fall for about 10 percent of enrollees, rise for about 70 percent, and be unchanged for all others. The option would also introduce cost-sharing requirements for services—such as home health care—that are not now subject to them, increasing administrative costs for the affected providers.

570-12-B Restrict Medigap Coverage

	Outlay Savings (Millions of dollars)
2002	1,230
2003	2,190
2004	2,480
2005	2,830
2006	3,190
2002-2006	11,920
2002-2011	34,180

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-11, 570-12-A, 570-13, and 570-15

RELATED CBO PUBLICATION:

Restructuring Health Insurance for Medicare Enrollees (Study), August 1991.

Savings from option 570-12-A could be substantially increased by restricting or prohibiting medigap coverage in addition to changing Medicare's cost-sharing provisions. Alternatively, some or all of the additional savings from restricting medigap coverage could be used to improve Medicare's coverage by reducing the deductible or cap.

If, for example, medigap plans were prohibited from covering any part of Medicare's new deductible (described in option 570-12-A), savings would be $11.9 billion over five years and $34.2 billion over 10 years. By raising Medicare's deductible and prohibiting medigap plans from covering it, the incentives for more prudent use of health care services would be appreciably strengthened for enrollees who now have medigap plans. Those incentives would be still greater if medigap coverage was prohibited altogether. However, despite Medicare's new copayment cap, which would protect enrollees against very large cost-sharing expenses, some enrollees would object to any policy that denied them access to first-dollar coverage.

570-13 Prohibit First-Dollar Coverage Under Medigap Policies

	Outlay Savings (Millions of dollars)
2002	2,250
2003	3,620
2004	3,890
2005	4,200
2006	4,530
2002-2006	18,490
2002-2011	46,880

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

570-12-B

RELATED CBO PUBLICATION:

Restructuring Health Insurance for Medicare Enrollees (Study), August 1991.

About 35 percent of Medicare's fee-for-service enrollees purchase individual supplementary private insurance (medigap coverage) that covers all or most of the cost sharing that the Medicare program requires. On average, medigap policyholders use at least 25 percent more services than they would if they did not have first-dollar coverage. However, taxpayers, through Medicare, pay most of the cost of those additional services, not medigap insurers.

Federal costs for Medicare could be reduced if medigap plans were prohibited from offering first-dollar coverage for Medicare's cost-sharing requirements. If, for example, medigap plans were barred from paying any portion of the first $1,500 of an enrollee's cost-sharing liabilities for calendar year 2002, use of medical services by medigap policyholders would fall, and federal savings in 2002 would total $2.2 billion. Assuming that the medigap limit was linked to growth in the average value of Medicare's costs for later years, savings over the 2002-2006 period would total $18.5 billion. Over 10 years, savings would total $46.9 billion.

Only enrollees who have medigap policies would be directly affected by this option, and most of them would be financially better off under it. Because their medigap premiums would decrease more than their out-of-pocket liabilities would increase, most medigap enrollees would have lower yearly expenses under this option. Indirectly, all enrollees might be better off because Medicare's premiums would be lower than under current law.

Medigap policyholders, however, would have to assume a higher level of financial risk for Medicare-covered services than they do now. Because they might feel more uncertain about their expenses, some policyholders might object to eliminating their option to purchase first-dollar coverage, even if in most years they would be financially better off. Moreover, in any given year, about a quarter of the people with medigap policies would actually incur higher expenses under this option, and those with expensive chronic conditions might be worse off year after year. Finally, the decrease in use of services by medigap policyholders that would generate federal savings under this option might not be limited to unnecessary care, so the health of some policyholders might be adversely affected.

570-14 Collect Deductible and Coinsurance Amounts on Clinical Laboratory Services Under Medicare

	Outlay Savings (Millions of dollars)
2002	680
2003	1,130
2004	1,230
2005	1,340
2006	1,460
2002-2006	5,840
2002-2011	15,640

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-11 and 570-15

Medicare currently pays 100 percent of the approved fee for clinical laboratory services provided to enrollees. Medicare's payment is set by a fee schedule, and providers must accept that fee as full payment for the service. For most other services provided under Medicare's Supplementary Medical Insurance (SMI) program, beneficiaries are subject to both a deductible and a coinsurance rate of 20 percent.

Imposing the SMI program's usual deductible and coinsurance requirements on laboratory services would yield appreciable savings. If this policy was in place beginning on January 1, 2002, federal savings would be $680 million in 2002, $5.8 billion over five years, and $15.6 billion over 10 years.

In addition to reducing Medicare's costs, this option would make cost-sharing requirements under the SMI program more uniform and therefore easier to understand. Moreover, enrollees might be somewhat less likely to undergo laboratory tests with little expected benefit if they paid part of those costs.

However, enrollees' use of laboratory services would probably not be substantially affected because decisions about what tests are appropriate are generally left to physicians, whose judgments do not appear to depend on enrollees' cost-sharing liabilities. Hence, a small part of the expected savings under this option would stem from more prudent use of laboratory services, but the greater part would reflect the transfer to enrollees of costs now borne by Medicare. Billing costs for some providers, such as independent laboratories, would be higher under the option because they would have to bill both Medicare and enrollees to collect their full fees. (Currently, they have no need to bill enrollees directly for clinical laboratory services.) In addition, states' Medicaid costs would increase for enrollees who also received Medicaid benefits.

570-15 Impose a Copayment Requirement on Home Health Visits Under Medicare

	Outlay Savings (Millions of dollars)	
	With $5 Copay-ment	With $10 Copay-ment
2002	790	1,430
2003	1,300	2,360
2004	1,470	2,640
2005	1,650	2,970
2006	1,850	3,310
2002-2006	7,060	12,710
2002-2011	19,880	35,480

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-11, 570-12-A, 570-12-B, and 570-14

Despite the recent drop in spending for home health care under Medicare, the use of services and the resulting costs are expected to resume growing rapidly. One reason for unrestrained growth of such costs is that the services are free to enrollees—currently, enrollees are not required to pay any portion of the cost of home health services under Medicare.

If a copayment of $5 was required for each home health visit covered by Medicare beginning in January 2002, net federal savings would be nearly $800 million in 2002, $7.1 billion over five years, and $19.9 billion over 10 years. If the copayment was $10, five-year savings would be $12.7 billion and 10-year savings would be $35.5 billion. Those estimates assume that the copayment would be indexed to the consumer price index after 2002.

This option would reduce Medicare's costs for home health care not only by shifting a small part of the cost per visit to users but also by reducing enrollees' use of the service—at least among the 10 percent of fee-for-service enrollees with no supplementary coverage for their cost-sharing expenses. However, little or no drop in use would be expected among the 90 percent of enrollees who have Medicaid, medigap, or employment-sponsored supplementary coverage. Further, the option would increase private insurance premiums for the 35 percent of enrollees with medigap supplements, and it would increase Medicaid program costs on behalf of the 15 percent of enrollees who also receive Medicaid benefits. Moreover, it would increase the risk of very large out-of-pocket costs for those with no supplementary coverage.

570-16 Permit Competitive Bidding for High-Volume Items of Durable Medical Equipment

	Outlay Savings (Millions of dollars)
2002	0
2003	30
2004	80
2005	150
2006	200
2002-2006	460
2002-2011	1,410

SPENDING CATEGORY:

Mandatory

Medicare paid about $6 billion for durable medical equipment (DME) supplies and orthotics/prosthetics in 1998. Suppliers of DME and orthotics/prosthetics are paid under a fee schedule specified in the Medicare statute. Both the General Accounting Office and the Inspector General of the Department of Health and Human Services have found that Medicare payments for many items are far higher than the prices paid by other insurers or the prices in retail stores. For example, the Inspector General found that fees paid by Medicare for albuterol sulfate, a commonly prescribed drug, were more than three times the suppliers' acquisition costs. In addition, Medicare paid 14 percent more than other payers for semi-electric hospital beds.

The Balanced Budget Act of 1997 authorized the Health Care Financing Administration (HCFA) to conduct a competitive bidding demonstration for DME and orthotics/prosthetics. HCFA initiated competitive bidding in Polk County, Florida, in October 1999. Bidders competed on price and quality for five categories of medical supplies: oxygen supplies, hospital beds, enteral nutrition equipment and supplies, surgical dressings, and urological supplies. All interested suppliers were required to bid. Only a limited number were selected as Medicare suppliers for each product, and no other suppliers were permitted to provide those products in Polk County.

Savings from the Florida competition averaged 17 percent across all five product categories and were as high as 30 percent for hospital beds. The program saved 16 percent on oxygen supplies, which account for 28 percent of total Medicare DME charges. The competition resulted in slightly higher prices for some items, primarily surgical dressings. The Florida demonstration shows that Medicare can use market forces to reduce total costs while maintaining quality and a choice of suppliers.

A second demonstration was held in three Texas counties, with 79 suppliers bidding to provide oxygen supplies, hospital beds, manual wheelchairs, noncustomized orthotic devices, and certain drugs. HCFA established payment rates that were 20 percent lower, on average, than Medicare's current fee schedule for the five categories of medical equipment and supplies. Medicare began paying the competitively bid rates in those three counties in January 2001.

Under this option, Medicare would use competitive bidding to purchase high-volume DME supplies in areas with large numbers of suppliers. By using that approach to purchase just two high-volume DME items—oxygen supplies and hospital beds—Medicare would reduce outlays by $30 million in 2003 and $1.4 billion over the 2002-2011 period.

One disadvantage of this option is that fewer oxygen and hospital bed suppliers would be participating in Medicare, although beneficiary access to suppliers would be a major consideration in selecting the number of winning bidders. In addition, competitive bidding could create financial hardship for oxygen and hospital bed suppliers that were not selected in the bidding process because Medicare is a major source of their revenue.

570-17 Increase the Premium for SMI Services Under Medicare to 30 Percent of Program Costs

	Outlay Savings (Millions of dollars)
2002	3,210
2003	4,940
2004	5,630
2005	6,280
2006	6,800
2002-2006	26,860
2002-2011	71,510

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

570-18

Benefits under Medicare's Supplementary Medical Insurance (SMI) program are partially funded by monthly premiums paid by enrollees, with the remainder funded by general revenues. Although the SMI premium was initially intended to cover 50 percent of the cost of benefits, premium receipts between 1975 and 1983 covered a declining share of SMI costs—falling from 50 percent to less than 25 percent. That drop occurred because premium increases were limited by the cost-of-living adjustment (COLA) for Social Security benefits (which is based on the consumer price index) but the per capita cost of the SMI program rose faster. Since 1984, premiums generally have been set to cover about 25 percent of average benefits for an aged enrollee, a provision that was made permanent in the Balanced Budget Act of 1997.

If the SMI premium was set to cover 30 percent of costs for 2002 and all years thereafter, outlay savings would be $3.2 billion in 2002, $26.9 billion over five years, and $71.5 billion over 10 years. The premium for 2002 would be $68.80 a month instead of $57.30. Those estimates assume a continuation of the current hold-harmless provisions, which ensure that no enrollee's monthly Social Security benefit will fall as a result of the Social Security COLA (which is based on the whole benefit) being smaller than the SMI premium increase.

Most SMI enrollees would pay a little more under this option, in contrast to proposals—such as increasing cost-sharing requirements—that could substantially raise the out-of-pocket costs of those who become seriously ill. This option need not affect enrollees with income below 120 percent of the federal poverty threshold because all of them are eligible to have Medicaid pay their Medicare premiums. (Some people who are eligible for Medicaid do not apply for benefits, however.)

Low-income enrollees who are not eligible for Medicaid could find the increased premium burdensome. A few might drop SMI coverage and either do without care or turn to sources of free or reduced-cost care, which could increase demands on local governments. In addition, states' expenditures would rise because states would pay part of the higher premium costs for those Medicare enrollees who also receive Medicaid benefits.

570-18 Tie the Premium for SMI Services Under Medicare to Enrollees' Income

	Outlay Savings (Millions of dollars)
2002	540
2003	1,890
2004	2,190
2005	2,530
2006	2,910
2002-2006	10,060
2002-2011	32,350

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-17 and REV-19

RELATED CBO PUBLICATIONS:

The Medicare Catastrophic Coverage Act of 1988 (Staff Working Paper), October 1988.

Subsidies Under Medicare and the Potential for Disenrollment Under a Voluntary Catastrophic Program (Study), September 1989.

Instead of increasing the basic premium to 30 percent of costs for all enrollees in the Supplementary Medical Insurance (SMI) program (see option 570-17), this option would collect relatively more from higher-income people. For example, people with modified adjusted gross income of less than $50,000 and couples with income below $75,000 would pay only the basic premium, set at 25 percent of SMI costs per aged enrollee. Premiums would rise progressively for higher-income enrollees, however. The maximum total premium would be set to cover 50 percent of costs for people with income exceeding $100,000 and for couples with income exceeding $150,000. The income-related premiums would have to be collected through the income tax system so that rates could be aligned with income. Current premiums are deducted automatically from Social Security checks for most enrollees.

If this option was in place in calendar year 2002, savings would total $540 million in fiscal year 2002, $10.1 billion over five years, and $32.4 billion over 10 years. Those estimates assume that the current hold-harmless provisions would continue only for people subject to the basic 25 percent premium. (The hold-harmless provisions ensure that no enrollee's Social Security check will decrease because an increase in the SMI premium exceeds the cost-of-living adjustment.)

Most SMI enrollees would be unaffected by tying a portion of the program's premium to income. Roughly 86 percent of enrollees would face the basic 25 percent premium, about 3 percent would pay the maximum premium, and 11 percent would pay a premium somewhere in between.

Enrollees subject to the income-related premium would pay substantially more, however. The maximum monthly premium for 2002 would be $114.60 instead of the $57.30 premium projected under current law. That increase might lead some enrollees to drop out, although it is estimated that fewer than 0.5 percent would do so. Enrollees with retirement health plans that do not require Medicare enrollment (mainly, retired government employees) would be most likely to drop out. Some healthy enrollees who have no other source of health insurance might do so as well, if they were not averse to the risk that they might incur large health care costs.

570-19-A Increase Medicare's Age of Eligibility to Match Social Security's Normal Retirement Age

	Outlay Savings (Millions of dollars)
2002	0
2003	390
2004	1,060
2005	1,790
2006	2,650
2002-2006	5,900
2002-2011	36,310

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-19-B and REV-19

RELATED CBO PUBLICATIONS:

The Long-Term Budget Outlook (Report), October 2000.

Long-Term Budgetary Pressures and Policy Options (Report), May 1998, Chapter 4.

Under current law, the normal retirement age (NRA) for Social Security will gradually increase from 65 to 67 in the first quarter of this century. However, eligibility for Medicare based on age will remain at 65. Because the two programs affect the same population and because eligibility is based on the same work history, some people have argued that the age requirements should be the same.

If the age at which a person became eligible for Medicare was raised in step with increases in the NRA for Social Security, the first cohort to be affected would be people who turned 65 in 2003—for that group, eligibility for Medicare would be delayed by two months. The age of eligibility would be increased by an additional two months each year through 2008 and then remain at 66 for 12 years. Beginning in 2020, the age of eligibility would again increase by two months a year until it reached 67 in 2025. Under that option, federal budget savings would total $390 million in 2003, $5.9 billion through 2006, and $36.3 billion through 2011. Reduced spending for Medicare would be partially offset by increased spending under Medicaid, the Federal Employees Health Benefits program, and the military's Tricare programs (reflected in the savings estimates). In addition, outlays for Social Security would fall by $8.9 billion from 2002 to 2011 because some people who were affected would delay retirement. (That drop in costs is not reflected in the estimates.)

The same reasons that have been used to justify increasing the NRA for Social Security apply to this option as well. Life expectancy has increased substantially since Social Security and Medicare began, and a majority of workers now live well beyond the age of eligibility. When Social Security was established in 1935, average life expectancy at birth was less than 65 years; now average life expectancy is greater than 75 years. Unless changes are made in those programs, longer expected lifetimes, together with the population bulge of the baby-boom generation, will increase costs enormously under Social Security and Medicare after 2010. One way to limit that cost growth would be to reduce the number of people eligible for benefits.

However, about 70 percent of Social Security beneficiaries retire before the normal retirement age—generally at Social Security's early retirement age of 62, which entitles them to benefits at a reduced level. Increasing Medicare's age of eligibility would also raise the number of years during which early retirees would be at risk of having no health insurance—just when their need for health care would be expected to increase significantly and their access to private individual insurance would be limited.

570-19-B Permit Early Buy-In to Medicare and Increase the Normal Age of Eligibility

	Outlay Savings (Millions of dollars)
2002	-30
2003	0
2004	630
2005	1,320
2006	2,120
2002-2006	4,040
2002-2011	31,080

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

570-19-A and REV-19

RELATED CBO PUBLICATIONS:

The Long-Term Budget Outlook (Report), October 2000.

An Analysis of the President's Budgetary Proposals for Fiscal Year 1999 (Report), March 1998, Appendix B.

Long-Term Budgetary Pressures and Policy Options (Report), May 1998, Chapter 4.

One way to alleviate the problem that early retirees may have in continuing health insurance coverage until they are eligible for Medicare would be to introduce an early age of eligibility (62) for nondisabled retirees. (Disabled people already become eligible for Medicare after a two-year waiting period, regardless of their age.) That change would make the conditions for age-based eligibility under Medicare wholly consistent with those for Social Security.

Allowing people to buy in to Medicare at age 62 beginning in January 2002, together with the gradual move to a later normal age of eligibility (67) described in option 570-19-A, would reduce federal costs by $4 billion over the 2002-2006 period and by $31.1 billion through 2011. (Social Security costs—which are not reflected in the estimates—would increase in the early years when only the buy-in was in place. However, savings would occur after 2005 as delays in retirement due to the increase in the eligibility age for Medicare more than offset earlier retirement among those taking advantage of the buy-in option.) Those estimates assume that people who used the early buy-in option would pay an actuarially fair premium for their age group during the buy-in years. The estimates also assume that once buy-in participants reached the normal age of eligibility, they would pay a premium surcharge to compensate for any excess costs incurred during their buy-in years. (Buy-in participants are likely to be more costly to Medicare than the average person in their age group.)

600

Income Security

Budget function 600 covers federal income-security programs that provide cash or in-kind benefits to individuals. Some of those benefits (such as food stamps, Supplemental Security Income, Temporary Assistance for Needy Families, and the earned income tax credit) are means-tested, whereas others (such as unemployment compensation and Civil Service Retirement and Disability payments) do not depend on a person's income or assets. CBO estimates that in 2001, federal outlays for function 600 will total $257 billion, including $44 billion in discretionary outlays. In the early 1990s, discretionary spending for function 600 grew significantly; since then, annual growth has been much slower.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	18.9	29.6	30.4	31.9	33.1	27.5	27.8	22.7	29.7	32.7	30.0	39.4
Outlays												
Discretionary	23.5	25.8	28.2	31.3	35.7	39.2	38.0	39.4	40.9	40.0	41.6	44.0
Mandatory	123.6	144.6	168.8	175.9	178.4	181.3	188.0	191.5	192.3	197.8	206.3	213.0
Total	147.1	170.3	197.0	207.3	214.1	220.5	226.0	230.9	233.2	237.7	247.9	257.0
Memorandum: Annual Percentage Change in Discretionary Outlays		9.5	9.6	11.1	13.9	9.8	-3.1	3.8	3.7	-2.3	4.1	5.7

600-01 End the Trade Adjustment Assistance Program

	Savings (Millions of dollars) Budget Authority	Outlays
2002	275	170
2003	395	355
2004	395	395
2005	405	405
2006	410	410
2002-2006	1,880	1,735
2002-2011	4,065	3,920

SPENDING CATEGORY:

Mandatory

RELATED CBO PUBLICATION:

Causes and Consequences of the Trade Deficit: An Overview (Memorandum), March 2000.

The Trade Adjustment Assistance (TAA) program offers income-replacement benefits, training, and related services to workers who are unemployed as a result of import competition. To obtain assistance, such workers must petition the Secretary of Labor for certification and then meet other eligibility requirements. Cash benefits are available to certified workers who are receiving training but only after their unemployment insurance benefits are exhausted.

Ending the TAA program by issuing no new certifications in 2002 and thereafter would reduce federal outlays by about $170 million in 2002 and by $3.9 billion during the 2002-2011 period. Affected workers could apply for benefits under the Workforce Investment Act of 1998 (WIA), which authorizes a broad range of employment and training services for displaced workers regardless of the cause of their job loss. (Because funding for WIA is limited, however, TAA cash benefits alone could be eliminated, and the remaining TAA funds for training and related services could be shifted to WIA. Doing that would reduce the total savings during the 10-year period by about one-third.)

The rationale for this option is to secure under federal programs more equivalent treatment of workers who are permanently displaced as a result of changing economic conditions. Since WIA provides cash benefits only under limited circumstances, workers who lose their job because of foreign competition are now treated more generously than workers who are displaced for other reasons.

Eliminating TAA cash benefits would, however, cause economic hardship for some of the long-term unemployed who would have received them. In addition, TAA now compensates some of the workers adversely affected by changes in trade policy. Some people argue, therefore, that eliminating TAA benefits could lessen political support for free trade, although such trade helps the overall economy.

600-02 End the Expansion of Programs to Build New Housing Units for Elderly and Disabled People

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	896	0
2003	896	10
2004	896	80
2005	896	190
2006	896	325
2002-2006	4,480	605
2002-2011	8,960	4,025
Relative to Inflated Appropriations		
2002	915	0
2003	935	10
2004	950	85
2005	970	195
2006	990	335
2002-2006	4,760	625
2002-2011	9,990	4,325

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

370-09

Since the early 1980s, federal programs to provide rental subsidies for low-income people have shifted their approach sharply, from constructing low-income housing to using less costly existing housing subsidized with vouchers and certificates. Two construction programs under which new commitments are still being made are the Section 202 and Section 811 programs for elderly and disabled people, respectively. For 2001, $896 million was appropriated for those programs to construct new units and subsidize their operating costs. (The appropriations allow as much as $54 million of those funds to be used for vouchers for disabled people.)

Over the period of 2002 to 2011, eliminating funding for additional new units under those programs would reduce outlays by $4 billion relative to current appropriations and $4.3 billion relative to current appropriations adjusted for inflation. Initially, savings in outlays would be substantially smaller than savings in budget authority because of the long lags involved in building new projects and thus in spending authorized funds.

Proponents of this option see little need to subsidize any new construction. The overwhelming housing problem today, they argue, is not a shortage of rental units but the inability of low-income households to afford the units that exist. For example, average overall annual vacancy rates have consistently exceeded 7 percent since 1986. In any event, if elderly and disabled people need more housing assistance, it could be provided less expensively through vouchers or certificates.

Opponents of this option argue that national statistics on the supply of rental units mask local shortages of certain types of units. In particular, many households with an elderly or disabled person need housing that can provide special social and physical services that are not generally available. People who support subsidized construction of units for low-income elderly and disabled households also maintain that the high cost of building such units requires the certainty of a guaranteed stream of income that only project-based subsidies can provide.

600-03 Increase Payments by Tenants in Federally Assisted Housing

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	355	175
2003	725	550
2004	1,125	950
2005	1,555	1,375
2006	1,925	1,825
2002-2006	5,685	4,875
2002-2011	16,845	16,030
Relative to Inflated Appropriations		
2002	355	175
2003	725	550
2004	1,125	950
2005	1,555	1,375
2006	1,925	1,825
2002-2006	5,685	4,875
2002-2011	16,845	16,030

SPENDING CATEGORY:

Discretionary

Most lower-income renters who receive federal rental assistance are aided through various Section 8 programs or the public housing program, all of which are administered by the Department of Housing and Urban Development (HUD). Those programs usually pay the difference between 30 percent of a household's income (after certain adjustments) and either the actual cost of the dwelling or a payment standard. In 2000, the average federal expenditure per assisted household for all of HUD's rental housing programs combined was roughly $5,000. That amount includes both housing subsidies and fees paid to administering agencies.

This option would increase tenants' rent contributions over a five-year period from 30 percent to 35 percent of their adjusted income. Budgetary savings would total $16 billion over the 2002-2011 period, including $11.8 billion for Section 8 programs and $4.2 billion for public housing. (Those estimates are based on the assumption that the Congress will provide budget authority to extend the life of all commitments for housing aid that are due to expire during the 2002-2011 period.) To diminish or eliminate the impact of that change on assisted tenants, state governments—which currently contribute no funds to the federal rental assistance programs—could be encouraged to make up some or all of the decreased federal support.

One rationale for directly involving states in housing assistance is that those programs generate substantial local benefits, such as improved quality of the housing stock. If all states paid 5 percent of the adjusted income of those tenants receiving assistance, housing costs for assisted families would not rise. Moreover, since eligibility for housing aid is determined by each area's median income, tying states' contributions to renters' incomes would ensure that lower-income states would pay less per assisted family than would higher-income states.

Because not all states might make up the reduction in federal assistance, housing costs could increase for some current recipients of aid, who generally have very low income. This option could also cause some relatively high-income renters in assisted housing projects to move to unassisted housing because it might now cost less to rent. As those tenants were replaced by new ones with lower income, the concentration of families with very low income in those projects would increase. In turn, the savings from this option could decrease somewhat.

600-04 Reduce Rent Subsidies to Certain One-Person Households

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	35	20
2003	70	55
2004	105	90
2005	140	120
2006	170	155
2002-2006	520	440
2002-2011	1,850	1,705
Relative to Inflated Appropriations		
2002	35	20
2003	70	55
2004	105	90
2005	140	120
2006	170	155
2002-2006	520	440
2002-2011	1,850	1,705

SPENDING CATEGORY:

Discretionary

Generally, recipients of federal housing aid live in housing units that are specifically designated for use by federally assisted tenants, or they rent units of their own choosing in the private rental market. Support for that second type of aid comes in the form of Section 8 certificates and vouchers, which generally reduce what recipients spend for housing to 30 percent of their income. Starting in 2000, the certificate and voucher programs were combined into one program that pays the difference between 30 percent of a tenant's income and either the lesser of the tenant's actual housing cost or a payment standard determined by local rental levels.

The payment standard and the amount of the federal subsidy both vary according to the type of unit in which the tenant resides. One-person households may generally live in apartments with up to one bedroom, whereas larger households may reside in larger units. Linking the rent subsidy for a newly assisted one-person household (or a currently assisted household that moves to another housing unit) to the cost of an efficiency apartment rather than a one-bedroom apartment would save $20 million in federal outlays in 2002 and $1.7 billion over the 2002-2011 period.

An argument in favor of this option is that an efficiency unit would provide adequate living space for a person who lived alone. An argument against the option is that individuals in some areas might have difficulty finding suitable housing under this new rule and as a result might have to spend more than 30 percent of their income to pay for available housing.

600-05 Reduce Funding for Employment and Training in the Food Stamp Program

	Savings (Millions of dollars) Budget Authority	Outlays
2002	75	0
2003	80	10
2004	80	15
2005	85	25
2006	85	35
2002-2006	405	85
2002-2011	875	375

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

600-06

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) established a new work and training requirement for certain recipients of food stamps. The act limited Food Stamp eligibility to a maximum of three months in any 36-month period for adults not engaged in work or job training who are able-bodied, are between the ages of 18 and 50, and have no dependent children. Under PRWORA, the requirement applies unless the Secretary of Agriculture waives it for a locale because of a high level of unemployment or insufficient job opportunities.

The Balanced Budget Act of 1997 (BBA) provided certain exemptions from the PRWORA work/training requirement as well as $600 million to fund new work/training program slots. However, subsequent legislation reduced work/training funds by $100 million in 1999, $45 million in 2000, and $25 million in 2001.

This option would eliminate the remaining funds for work/training slots under the BBA. It would also provide additional savings in the Food Stamp program from not paying benefits to the people who would have occupied the canceled slots. Those changes would reduce outlays by about $375 million over the 2002-2011 period.

An argument for eliminating the remaining work/training funds provided under the BBA is that states have not been using all of the funds allotted to them. States receive basic federal funding for employment and training of Food Stamp recipients under the Food Stamps Act of 1985, and those funds can be used for able-bodied adults without dependent children. People facing the work/training requirement under PRWORA can also apply to other programs that operate independently of the Food Stamp program. States with economically distressed areas, which might have fewer alternative job opportunities in the private sector than more prosperous locales, can also apply for waivers from the PRWORA requirement.

An argument against this option is that the unspent funds are not necessarily evidence of a lack of need. Some states had to develop the work/training programs that the BBA authorizes. Such programs must be targeted primarily toward able-bodied adults without dependent children and may not simply substitute for state-funded programs. To ensure that BBA funds are spent on new work/training efforts, the law requires states to maintain their 1996 spending levels for work/training programs in order to collect the BBA funds. Another argument for maintaining the funds available under the BBA is that they offer some flexibility because they do not have to be spent in a particular fiscal year. The funds may be carried over and reallocated by the Secretary of Agriculture among the states on the basis of year-to-year changes in the distribution of covered individuals.

600-06 Strengthen the Employment and Training Requirements for Food Stamp Recipients

	Savings (Millions of dollars) Budget Authority	Outlays
2002	30	30
2003	30	30
2004	30	30
2005	30	30
2006	35	35
2002-2006	155	155
2002-2011	340	340

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

600-05

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) is intended to encourage people to work or pursue job training. Thus, the law restricts Food Stamp eligibility to a maximum of three months in any 36-month period for able-bodied adults not engaged in work or training who are 18 to 50 years of age and have no dependent children—unless the Secretary of Agriculture has waived the work/training requirement for their locale. Under the Balanced Budget Act of 1997 (BBA), however, states may exempt up to 15 percent of such able-bodied Food Stamp recipients from the requirement.

This option would eliminate the 15 percent exemption to the PRWORA work/training requirement. That change would reduce outlays by $30 million in 2002 and $340 million over the 2002-2011 period.

The BBA exemption allows states to use different Food Stamp eligibility rules for different childless adults. Eliminating the exemption would require states to use the same eligibility criteria for all 18- to 50-year-old able-bodied people with no dependent children who live in a particular area. An argument against this option is that the exemption provides a safety net for a needy population that can be difficult to serve.

600-07 Reduce the $20 Unearned Income Exclusion Under the Supplemental Security Income Program

	Savings (Millions of dollars) Budget Authority	Outlays
2002	90	90
2003	120	120
2004	120	120
2005	135	135
2006	125	125
2002-2006	590	590
2002-2011	1,235	1,235

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

600-08

The Supplemental Security Income (SSI) program provides federally funded monthly cash payments—based on uniform, nationwide eligibility rules—to low-income elderly and disabled people. In addition, most states provide supplemental payments. Because SSI is a means-tested program, recipients' outside income reduces their SSI benefits, subject to certain exclusions. For unearned income (most of which is Social Security), $20 a month is excluded; benefits are reduced dollar for dollar for unearned income above that amount. The program allows a more liberal exclusion for earned income to maintain incentives for recipients to work.

This option would reduce the monthly $20 unearned income exclusion to $15. That reduction would save $90 million in 2002 and $1.2 billion over the 2002-2011 period.

A program that ensures a minimum living standard for its recipients need not provide a higher standard for people who happen to have unearned income. Nevertheless, reducing the monthly $20 exclusion by $5 would decrease by as much as $60 a year the income of the roughly 2.5 million low-income people (approximately 40 percent of all federal SSI recipients) who would otherwise benefit from the exclusion in 2002. Even with the full $20 exclusion, the income of most SSI recipients falls below the poverty threshold.

600-08 Create a Sliding Scale for Children's SSI Benefits Based on the Number of Recipients in a Family

	Savings (Millions of dollars) Budget Authority	Outlays
2002	0	0
2003	70	70
2004	145	145
2005	170	170
2006	165	165
2002-2006	550	550
2002-2011	1,510	1,510

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

600-07

The Supplemental Security Income (SSI) program provides federally funded cash payments—based on uniform, nationwide eligibility rules—to elderly and disabled people with low income. In addition, most states provide supplemental payments to SSI recipients. In 2000, children received approximately $5.5 billion in federal SSI benefits, accounting for almost one-sixth of federal SSI benefits paid that year.

Unlike other means-tested benefits, the SSI payment for an additional child does not decline as the number of SSI recipients in a family increases. In 2001, a family with one child qualifying for SSI benefits could receive up to $530 a month, or $6,360 a year, if the family's income (excluding SSI benefits) was under the cap for the maximum benefit. If the family had additional eligible children, it could receive another $530 a month for each one. (A child's benefit is based only on the presence of a severe disability and the family's income and resources, not on the nature of the qualifying disability or on participation by other family members in the SSI program.)

This option would create a sliding scale for SSI disability benefits so that a family would receive smaller benefits per child as the number of children receiving SSI increased. The sliding scale used in this option was recommended by the National Commission on Childhood Disability in 1995. It would keep the maximum benefit for one child as it is in current law but reduce additional benefits for additional recipient children in the same family. If that sliding scale was in place in 2001, the first child in a family qualifying for the maximum benefit would receive $530, the second child would receive $302 (43 percent less), and the third would receive $273 (48 percent less). Benefits would continue to decrease for additional children. About 90 percent of child recipients would be unaffected by the new scale, and the remaining 10 percent would have their benefits reduced by about one-fourth, on average. As with current SSI benefits, the sliding scale would be adjusted each year to reflect changes in the consumer price index.

This option assumes that the change would not be implemented until 2003 because the Social Security Administration does not maintain data on multiple SSI recipients in a family, so implementing the sliding scale would require significant effort on the agency's part. Savings from this option would total $70 million in 2003 and $1.5 billion over the 2003-2011 period.

Proponents of a sliding scale argue that the reductions in benefits it would produce reflect economies of scale that generally affect the cost of living for families with more than one child. Moreover, the high medical costs that disabled children often incur, which would not be subject to economies of scale, would continue to be covered because SSI participants generally are covered by Medicaid.

Opponents of this option could argue that children with disabilities sometimes have unique needs that may not be covered by Medicaid, including modifications to their housing and specialized equipment. With lower SSI benefits, some families might be unable to meet such needs.

600-09 Reduce the Federal Matching Rate for Administrative Costs in the Child Support Enforcement Program

	Savings (Millions of dollars) Budget Authority	Outlays
2002	1,140	1,140
2003	1,230	1,230
2004	1,310	1,310
2005	1,390	1,390
2006	1,480	1,480
2002-2006	6,550	6,550
2002-2011	15,410	15,410

SPENDING CATEGORY:

Mandatory

The Child Support Enforcement (CSE) program assists states in their effort to improve the payment of child support by noncustodial parents. The federal government pays 66 percent of the program's administrative costs, provides incentive payments, and allows states to retain some of the money they collect.

This option would reduce the federal share of administrative costs from 66 percent to 50 percent. That change in the federal matching rate could save $1.1 billion in 2002 and $15.4 billion through 2011.

Several arguments can be made for shifting greater responsibility for CSE's administrative costs to the states. For one thing, such a shift would encourage states to make their child support enforcement efforts more efficient because they would be paying a larger share of the costs. It would also bring the federal share of CSE's administrative costs more in line with the share of such costs that the federal government bears in comparable programs.

Lowering the matching rate would entail some risks, however. The number of cases in which states retain a portion of child support collections has decreased in recent years, which has threatened the program's total collections. A lower federal matching rate for administrative costs would threaten states' finances, possibly leading them to reduce child support enforcement services. Any cut in those services could result in a drop in collections and higher costs for Temporary Assistance for Needy Families (TANF), because collections of child support partly offset payments of TANF benefits. States might respond to their greater share of administrative costs by reducing their benefits and services for needy families.

Under the Unfunded Mandates Reform Act of 1995, reductions in federal funding for certain entitlement grant programs—including the Child Support Enforcement program—are considered mandates on state governments if the states lack authority to amend their programmatic or financial responsibilities to offset the loss of funding. Because some states may not have sufficient flexibility within the CSE program to make such changes, this option could constitute an unfunded mandate on those jurisdictions under that law.

600-10 Reduce TANF Block Grants to States

	Savings (Millions of dollars) Budget Authority	Outlays
2002	0	0
2003	814	110
2004	809	195
2005	794	430
2006	769	785
2002-2006	3,188	1,520
2002-2011	6,985	6,045

SPENDING CATEGORY:

Mandatory

Under the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), the federal government provides block grants to states for Temporary Assistance for Needy Families (TANF). The amounts of the block grants are based on spending levels for three programs that PRWORA repealed and TANF replaces: Aid to Families with Dependent Children (AFDC), Emergency Assistance for Needy Families, and the Job Opportunities and Basic Skills, or JOBS, training program. To receive TANF funds, a state must spend from its own funds a predetermined "maintenance-of-effort" amount based on its pre-TANF spending. In addition, the state must maintain minimum work participation rates for recipient families, require parents and caretaker recipients to engage in work activities after receiving no more than 24 months of TANF benefits (with some exemptions), and impose a five-year limit on receipt of federally funded TANF benefits. The Congress has authorized $16.5 billion annually for TANF through 2002. The Congressional Budget Office assumes in its baseline that the program will be reauthorized and that similar funds will be available for 2003 and thereafter.

This option would reduce the TANF block grants to states by 5 percent after reauthorization. That reduction would reduce budget authority by $814 million in 2003 and outlays by $110 million. Over the 2003-2011 period, budget authority would decline by $7 billion and outlays by $6 billion. Budget authority would fall by less than the full 5 percent reduction in the TANF block grants because spending for Food Stamps would increase when TANF benefits were reduced. Outlays would initially fall by less than the reduction in budget authority because caseloads in the AFDC and TANF programs have declined significantly over the past seven years and many states have been accumulating TANF budget authority from their current annual block grants. The cut in budget authority would result in lower outlays only after a state had depleted its accumulated budget authority.

An argument for reducing the TANF block grants is that most states need much less money for their programs than legislators expected when PRWORA was enacted. An argument against the cut is that it would reduce federal spending in several states that have been exhausting their TANF block grants, which could cause those states to cut their TANF benefits and services.

600-11-A Defer Cost-of-Living Adjustments for Annuitants of the Civil Service Retirement System

	Savings (Millions of dollars) Budget Authority	Outlays
2002	385	385
2003	565	565
2004	500	500
2005	605	605
2006	765	765
2002-2006	2,820	2,820
2002-2011	9,405	9,405

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

600-11-B, 600-11-C, 600-12, 600-13, and 600-14

RELATED CBO PUBLICATION:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

Federal civilian retirement programs cover about 2.7 million active employees and 2.4 million retirees and survivors. Federal civilian pension payments totaled $45 billion in 2000. Civilian workers covered by the Civil Service Retirement System (CSRS), which applies to most civilian employees hired before January 1, 1984, receive full cost-of-living-adjustments (COLAs). Civilian employees hired after that date receive less generous protection from inflation. Employees covered by the post-1983 civilian plan, the Federal Employees Retirement System (FERS), receive a so-called diet-COLA, generally 1 percentage point less than inflation. Moreover, COLAs are generally paid only to FERS retirees who are age 62 or older.

This option and options 600-11-B and 600-11-C illustrate three basic approaches to reducing the cost of COLAs: deferring adjustments for inflation, limiting the size of those adjustments, and reducing adjustments for middle- and high-income retirees. All three options would still give federal retirees better protection against inflation than most private-sector pensions give their retirees. However, as with any cut in benefits, those reductions could make recruitment and retention harder for federal civilian agencies.

Deferring COLAs under CSRS until age 62 for all nondisabled civilian employees who retired before that age would yield savings in direct spending of $385 million in 2002, $2.8 billion over five years, and $9.4 billion over 10 years. Consistent with coverage for some personnel in the military retirement system, this option would allow a one-time catch-up adjustment at age 62, increasing pensions to the amount that would have been payable had full COLAs been in effect. Under the approach of deferring COLAs, a CSRS-covered annuitant retiring at age 55 with an average annuity of $25,000 in 2002 would lose $18,700 over seven years.

Deferring COLAs would align practices for CSRS with those for FERS and encourage federal employees to work longer. A major disadvantage of this option is that for current retirees or those nearing retirement, it could be regarded as a revocation of earned retirement benefits. In addition, although CSRS benefits are more generous than the total package of benefits typically offered by private employers, they fall short of those offered by many large private firms, which compete directly with the federal government in labor markets. Moreover, because CSRS benefits are already less generous than those available under FERS (including Social Security and the Thrift Savings Plan), this option would worsen the disparity between the government's civilian retirement plans.

600-11-B Limit Some Cost-of-Living Adjustments for Federal Retirees

	Savings (Millions of dollars) Budget Authority	Outlays
2002	200	200
2003	400	400
2004	640	640
2005	885	885
2006	1,025	1,025
2002-2006	3,150	3,150
2002-2011	12,140	12,140

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

600-11-A, 600-11-C, 600-12, 600-13, and 600-14

RELATED CBO PUBLICATION:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

Annuitants under the Civil Service Retirement System (CSRS) receive annual cost-of-living adjustments (COLAs) that offer 100 percent protection against inflation. Annuitants under the Federal Employees Retirement System (FERS) receive full protection only when the annual rate of inflation is less than 2 percent. If inflation in a year is between 2 percent and 3 percent, FERS annuitants receive COLAs of 2 percent. If inflation is over 3 percent, the adjustment is the increase in inflation minus 1 percentage point.

This option would limit COLAs for CSRS annuitants to half a percentage point below inflation. Moreover, when inflation fell below 3 percent, FERS retirees would receive a COLA equaling the rate of inflation minus a percentage point. The 0.5 percentage-point reduction for CSRS retirees would produce a cut roughly comparable with the 1 percentage-point limit for FERS enrollees, who are also covered by Social Security.

Savings in direct spending for civilian pensions would amount to $200 million in 2002, $3.2 billion over five years, and $12.1 billion over 10 years. Over five years, the average CSRS retiree would lose $1,800. (Savings from this option would fall by $495 million over five years if it was coupled with option 600-11-A, which would defer COLAs until age 62 for CSRS workers.) The Congress could also consider limiting COLAs only for the FERS plan, which is more generous once Social Security and Thrift Savings Plan benefits are factored in.

The main argument for this approach, as with the other options for COLAs, is that protection by COLAs under federal pension plans exceeds that offered by most private pension plans. COLAs are becoming less prevalent in the private sector. According to a 1999 survey, fewer than 10 percent of private-sector retirement plans offered annuitants any automatic protection against inflation.

The main argument against cutting any retirement benefit is that such an action hurts both retirees and the government's ability to recruit a quality workforce. Advocates for federal workers argue that although certain provisions of federal retirement plans are generous, total compensation should be the basis of comparison between federal and private-sector employment. Annual surveys indicate that federal workers may be accepting salaries below private-sector rates for comparable jobs in exchange for better retirement provisions. In essence, workers pay for their more generous retirement benefits by accepting lower wages during their working years. This option, however, would hurt those retirees most dependent on their pensions. It would also renege on an understanding that workers covered under CSRS who passed up the chance to switch to FERS would retain their full protection against inflation. Finally, advocates for federal workers note that some protection from inflation for federal retirees has already been restricted. The General Accounting Office calculated that delays and reductions in COLAs from 1985 through 1994 effectively reduced them to about 80 percent of inflation.

600-11-C Reduce Cost-of-Living Adjustments for Middle- and High-Income Federal Retirees

	Savings (Millions of dollars) Budget Authority	Outlays
2002	280	280
2003	675	675
2004	1,080	1,080
2005	1,465	1,465
2006	1,855	1,855
2002-2006	5,355	5,355
2002-2011	20,940	20,940

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

600-11-A, 600-11-B, 600-12, 600-13, and 600-14

RELATED CBO PUBLICATION:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

An alternative to the two previous options would tie reductions in the cost-of-living adjustment (COLA) to federal retirees' benefit levels. For example, the full COLA could be awarded only on the first $730 of a retiree's monthly benefit; a COLA of half that could be given on the remainder. The average pension for a federal civilian retiree was $1,960 a month in 2000. The threshold of $730 per month is about equal to the projected poverty level for an elderly person in 2001 and could be indexed to inflation to maintain its value over time. Similar proposals have been considered for Social Security.

This approach would save about $280 million in direct spending for civilian pensions in 2002, $5.4 billion over the 2002-2006 period, and $20.9 billion over 10 years. The average retiree under the Civil Service Retirement System (CSRS) who was affected by the cut would lose $3,300 over five years. Because the full COLA would be paid only to beneficiaries with small annuities, this option would better focus COLAs on retirees who had the greatest need for protection from inflation. Retirees receiving Federal Employees Retirement System (FERS) benefits already get a reduced COLA, so this change would have less effect on them than on retirees receiving CSRS benefits. As a result, the option would widen the existing gap between the total benefits provided by FERS (including Social Security and the Thrift Savings Plan) and those provided by CSRS (which offers only a basic benefit), making FERS even more generous relative to CSRS than it had been in the past.

The disadvantage of this option is that it would reduce the ability of the federal government to hire and retain middle- and upper-level managers and professionals. In addition, restricting COLAs would undercut a major strength of the federal retirement system—its ability to offer indexed pensions. Fully indexed benefits provide insurance against inflation, which generally is not offered in the private sector. Furthermore, many people object to any reductions in earned retirement benefits. They also point out that federal pensions are fully taxable under the individual income tax in the same proportion that they exceed the contributions that employees made during their working years. Moreover, because pension benefit levels are not always reliable indicators of total income, critics of this option point out that it may not be possible to apply the option fairly.

600-12 Modify the Salary Used to Set Federal Pensions

	Savings (Millions of dollars) Budget Authority	Outlays
2002	45	45
2003	100	100
2004	155	155
2005	225	225
2006	285	285
2002-2006	810	810
2002-2011	3,195	3,195

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

600-11-A, 600-11-B, 600-11-C, 600-13, and 600-14

RELATED CBO PUBLICATION:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

Both of the government's major retirement plans for civilian employees, the Federal Employees Retirement System (FERS) and the Civil Service Retirement System (CSRS), provide initial benefits based on the average salary for an employee's three consecutive highest-earning years. If a four-year average was adopted for people who retire under FERS and CSRS after September 30, 2001, initial pensions would be about 1.5 percent to 2 percent smaller for most new civilian retirees. In 2002, savings to the government in direct spending for civilian pensions would be $45 million; those savings would total $810 million over five years and $3.2 billion over 10 years.

This option would align federal practices more closely with those in the private sector, which commonly uses five-year averages. The change in figuring the base salary would encourage some employees to remain on the job longer in order to boost their pensions to reflect the higher salaries they receive with more years on the job. That incentive could help the government keep experienced people, but it could hinder efforts to reduce federal employment and promote the hiring of entry-level workers.

The major drawback to the option is that it would cut benefits and consequently reduce the attractiveness of the government's civilian compensation package. In the last legislative session, the Congress took several actions to improve that compensation package, including rolling back required contributions by federal employees to their retirement plans.

Under this option, FERS benefits (which include Social Security and the Thrift Savings Plan) would remain more generous than those offered by large private firms, but CSRS benefits (which do not include Social Security and the Thrift Savings Plan) would fall below those received by many retirees from the private sector. The average new CSRS retiree would lose $625 in 2002 and $3,300 over five years, whereas the average new FERS retiree would lose $200 in 2002 and just $1,075 over five years because of the smaller defined benefit under that system.

600-13 Restrict the Government's Matching Contributions to the Thrift Savings Plan

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	760	760
2003	795	795
2004	830	830
2005	870	870
2006	905	905
2002-2006	4,160	4,160
2002-2011	9,240	9,240
Relative to Inflated Appropriations		
2002	790	790
2003	865	865
2004	945	945
2005	1,025	1,025
2006	1,110	1,110
2002-2006	4,735	4,735
2002-2011	11,675	11,675

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

600-11-A, 600-11-B, 600-11-C, 600-12, and 600-14

RELATED CBO PUBLICATIONS:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

Comparing Federal Salaries with Those in the Private Sector (Memorandum), July 1997.

The Thrift Savings Plan (TSP) for federal civilian employees is a defined contribution pension plan similar to the 401(k) plans that many private employers offer. Federal agencies automatically contribute to the TSP an amount equal to 1 percent of individuals' earnings for all of the 1.5 million workers covered by the Federal Employees Retirement System (FERS). In addition, the employing agencies match voluntary deposits by workers dollar for dollar on the first 3 percent of their pay and 50 cents for each dollar on the next 2 percent. The total federal contribution is 5 percent of employees' pay for those who also put aside 5 percent. Workers covered by the Civil Service Retirement System (CSRS), which applies to most civilian federal employees hired before January 1, 1984, currently can contribute 5 percent of their pay to the TSP, but agencies contribute nothing on behalf of those employees.

If the government limited its matching contributions to a uniform rate of 50 percent on the first 5 percent of pay, its maximum contribution would fall to 3.5 percent of pay. Implementing this option would save \$9.2 billion over the 2002-2011 period relative to current appropriations and \$11.7 billion relative to current appropriations adjusted for inflation. (The estimates exclude savings realized by the Postal Service even though its workers participate in CSRS and FERS, because reductions in its operating costs eventually benefit only mail users.) Assuming that agencies continued the automatic 1 percent contribution, this arrangement would remain more generous than the defined contribution pension plans that are typically offered in the private sector.

Limiting the matching contributions would reduce the disparity between the government's two major retirement systems. Benefits under FERS—which include Social Security and the TSP—are currently more generous than those under the older CSRS for most participants. Yet restricting the matching contributions would have several drawbacks. Middle- and upper-income employees rely on the government's contributions to maintain their standard of living during retirement because Social Security replaces a smaller portion of their income than it does for lower-income employees. Part of the TSP's appeal derives from its individual accounts for each participant, which enjoy some protection from cuts imposed by subsequent changes in law. The security and portability of the TSP were major factors in the decision of many employees to switch from CSRS to FERS, because the TSP compensated for a less generous defined benefit plan. Changing the TSP's provisions would be unfair to that group, whose decision to switch plans reasonably assumed that changes would not be made. Opponents of restricting the matching rate also argue that doing so would diminish employees' savings for retirement, a problem that would be intensified if the cut reduced participation in the TSP. Research shows, however, that private-sector employees' contributions to their 401(k) plans tend to be responsive to employers' offer of matching contributions but not to the size of the match.

600-14 Restructure the Government's Matching Contributions to the Thrift Savings Plan

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	325	325
2003	345	345
2004	360	360
2005	375	375
2006	390	390
2002-2006	1,795	1,795
2002-2011	3,980	3,980
Relative to Inflated Appropriations		
2002	340	340
2003	370	370
2004	405	405
2005	440	440
2006	475	475
2002-2006	2,030	2,030
2002-2011	5,020	5,020

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

600-11-A, 600-11-B, 600-11-C, 600-12, and 600-13

RELATED CBO PUBLICATIONS:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

Comparing Federal Salaries with Those in the Private Sector (Memorandum), July 1997.

Most federal workers covered by the Federal Employees Retirement System (FERS) currently can contribute up to 10 percent of their salary into the Thrift Savings Plan (TSP), which is similar to a 401(k) plan. However, employees can receive the highest contribution the government is willing to make to the TSP (an amount equal to 5 percent of their pay) by contributing only 5 percent of their earnings. Restructuring the government's contribution schedule so that the government made the full 5 percent contribution only when employees contributed 10 percent would save, over the 2002-2011 period, $4.0 billion relative to current appropriations and $5.0 billion relative to current appropriations adjusted for inflation.

At present, federal agencies automatically contribute an amount equal to 1 percent of salaries into the TSP for their FERS employees. In addition, employing agencies match the first 3 percent of workers' voluntary contributions dollar for dollar and the next 2 percent at 50 cents on the dollar. Employees may contribute another 5 percent of pay but get no matching contribution. The 10 percent limit on contributions will increase over the next several years.

This option would spread the government's total 5 percent contribution over a 10 percent contribution by employees. It would do so by matching voluntary contributions ranging from 1 percent up to 6 percent at the rate of 50 cents per dollar (for a maximum 3 percent match), and those ranging from 7 percent to 10 percent at 25 cents per dollar (for a maximum 1 percent match). The government would continue to automatically contribute an amount equal to 1 percent of employees' earnings.

Changing the government's matching schedule would bring the government's practices more in line with those of defined contribution plans in the private sector, which usually provide less generous matching contributions and no automatic contributions. According to the Bureau of Labor Statistics, the most prevalent practice among medium and large private firms is to match employees' contributions up to 6 percent of pay at 50 cents on the dollar. Some federal employees, especially those currently contributing 5 percent of pay, would have an incentive to contribute more to the TSP and as a result would have more savings available to them when they retired. Further, restructuring matching contributions might reduce the disparity between the government's two major retirement systems. Benefits under FERS—which include Social Security and the TSP—are currently higher and cost the government more than those under the older Civil Service Retirement System for most participants.

This option has several drawbacks, however. First, a lower government match on smaller contributions may reduce the retirement resources of some employees by weakening their incentive to contribute. Second, the government may achieve its savings at the expense of employees who are least likely to contribute a higher percentage of earnings into the TSP—namely, young workers and others with relatively low earnings. Third, changing the TSP may be considered unfair because many people accepted employment with the government or switched from the Civil Service Retirement System to FERS assuming that TSP benefits would not change.

650

Social Security

Budget function 650 comprises spending for the Old-Age, Survivors, and Disability Insurance programs, commonly known as Social Security. Social Security consists of two parts, each tied to a trust fund. The Old-Age and Survivors Insurance (OASI) program provides monthly benefits to eligible retired workers and their families and survivors. The Disability Insurance (DI) program provides monthly benefits to eligible disabled workers and their families. CBO estimates that Social Security outlays will total $433.1 billion in 2001. That amount includes discretionary outlays of $3.4 billion, which are for the administrative expenses of operating the Social Security program.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	2.2	2.4	2.5	2.6	2.8	2.3	3.1	3.5	3.2	3.2	3.2	3.4
Outlays												
Discretionary	2.1	2.3	2.4	2.6	2.7	2.6	2.6	3.0	3.1	3.1	3.4	3.4
Mandatory	246.5	266.8	285.2	302.0	316.9	333.3	347.1	362.3	376.1	387.0	406.0	429.7
Total	248.6	269.0	287.6	304.6	319.6	335.8	349.7	365.3	379.2	390.0	409.4	433.1
Memorandum:												
Annual Percentage Change in Discretionary Outlays		5.8	7.4	7.6	2.0	-2.9	2.0	12.8	4.9	-1.8	12.0	-0.8

650-01 Accelerate the Increase in the Retirement Age for Social Security Benefits

	Outlay Savings (Millions of dollars)
2002	0
2003	0
2004	0
2005	0
2006	50
2002-2006	50
2002-2011	9,350

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

650-02 and 650-03

RELATED CBO PUBLICATION:

Long-Term Budgetary Pressures and Policy Options (Report), May 1998, Chapter 3.

Under current law, workers born before 1938 become eligible for full Social Security retirement benefits at age 65. The normal retirement age (NRA) increases in two-month increments for workers thereafter, reaching 66 for workers born in 1943. It remains at 66 for workers born from 1944 through 1954. It then begins to rise again, also in two-month increments, reaching 67 for workers born in 1960 or later. Workers will still be able to start collecting reduced benefits at age 62. As the NRA increases, however, the size of that reduction will grow as the period between age 62 and the age at which a new beneficiary becomes eligible for unreduced benefits lengthens.

Members of Congress and others have recommended that the change to an NRA of 67 be accelerated. One option would steadily increase the NRA by two months per year until it reached age 67 for workers born in 1949. Under that option, the first cohort to have a normal retirement age of 67 would become eligible for reduced benefits (at age 62) in 2011, which is 11 years sooner than under current law.

The savings from that option would begin as workers in the first affected cohort (workers born in 1944) reached age 62 in 2006, and they would increase thereafter. Workers in that cohort who began collecting benefits at age 62 would receive about 1 percent less than they would under current law (about 74 percent of their full benefit, rather than 75 percent). The NRA for workers who reached age 62 in 2011 would be 67 rather than 66; they would receive about 7 percent less than they would under current law (70 percent of their full benefit, rather than 75 percent).

Because the first Social Security beneficiaries affected would not become eligible for benefits until 2006, federal outlays would be unaffected until then. Each year thereafter, the savings would grow as more beneficiaries were affected, with each successive cohort incurring larger reductions in benefits. Savings over the 2002-2011 period would total $9.4 billion. Because some Social Security beneficiaries with low income would qualify for federal means-tested benefits, such as Supplemental Security Income and food stamps, some of the savings in Social Security benefits might be offset by additional outlays for other programs. (That increase in outlays is not reflected in the estimates.)

Proponents of raising the normal retirement age point out that people age 65 today live several years longer, on average, than was the case in the early days of the Social Security system, that life expectancy is projected to continue to increase, and that this otherwise favorable development will raise the cost of the program. Opponents argue that raising the NRA is, for the most part, simply a means of cutting future monthly Social Security benefits.

650-02 Lengthen the Computation Period for Social Security Benefits by Three Years

	Outlay Savings (Millions of dollars)
2002	50
2003	150
2004	450
2005	900
2006	1,450
2002-2006	3,000
2002-2011	22,100

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

650-01 and 650-03

RELATED CBO PUBLICATION:

Long-Term Budgetary Pressures and Policy Options (Report), May 1998, Chapter 3.

Social Security retirement benefits are based on the average indexed monthly earnings (AIME) of workers in jobs covered by the system. The present formula computes AIME based on workers' 35 highest-earning years of employment. Lengthening the averaging period would generally lower benefits slightly by requiring more years of lower earnings to be factored into the benefit computation. This option would increase the AIME computation period gradually until it reached 38 years for people turning 62 in 2004 or beyond. That approach would save $3 billion over the next five years and more in later years. Because some Social Security beneficiaries with low income would qualify for federal means-tested benefits, such as Supplemental Security Income and food stamps, some of the savings in Social Security benefits might be offset by additional outlays for other programs. (That increase in outlays is not reflected in the estimates.)

One argument for a longer computation period is that people are now living longer and that lengthening the computation period would encourage people to remain in the labor force longer as well. In addition, lengthening the averaging period would reduce the advantage that some workers who postpone entering the labor force have over those who get jobs at younger ages. Because many years of low or no earnings can be ignored in calculating AIME, the former group currently experiences little or no loss of benefits for its additional years spent not working and thus not paying Social Security taxes.

Opponents argue that because some beneficiaries elect early retirement for reasons such as poor health or unemployment, this proposal would adversely affect recipients who were least able to continue working. Other workers who would be disproportionately affected include those with significant time spent outside the Social Security system, such as parents—usually women—who interrupted their career to rear children, and workers who were unemployed for long periods of time.

650-03 Reduce Cost-of-Living Adjustments in Social Security Benefits

	Outlay Savings (Millions of dollars)
2002	1,650
2003	4,000
2004	6,450
2005	8,850
2006	11,350
2002-2006	32,300
2002-2011	130,250

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

650-01 and 650-02

RELATED CBO PUBLICATION:

Long-Term Budgetary Pressures and Policy Options (Report), May 1998, Chapter 3.

Each year, the Social Security Administration adjusts monthly Social Security benefits by the increase in the consumer price index (CPI). For example, the 3.5 percent cost-of-living adjustment (COLA) effective for December 2000 was based on the increase in the CPI for urban wage earners and clerical workers (the CPI-W) between the third quarter of 1999 and the third quarter of 2000.

Some policymakers suggest that the law be changed to provide a COLA equal to the increase in the CPI minus a specified number of percentage points. The option presented here would limit the COLA to the increase in the CPI-W minus 0.5 percentage points, beginning with the COLA effective for December 2001.

This option would save $32.3 billion over the 2002-2006 period and more in later years. Because some Social Security beneficiaries with low income would qualify for federal means-tested benefits, such as Supplemental Security Income and food stamps, some of the savings in Social Security benefits might be offset by additional outlays for other programs. (That increase in outlays is not reflected in the estimates.)

Some analysts feel that the CPI overstates increases in the cost of living, but they debate the magnitude of the overstatement and what should be done about it. In 1996, the Advisory Commission to Study the Consumer Price Index (known as the Boskin Commission) estimated the size of the upward bias to be about 1 percentage point a year. If that is the case, then Social Security beneficiaries have been receiving increases in benefits beyond what is necessary to keep up with inflation. But that estimate is not universally accepted. Furthermore, since the commission prepared its report, the Bureau of Labor Statistics has changed the way it calculates the CPI to address several of the commission's concerns.

If the CPI has overstated increases in the cost of living for beneficiaries, then policymakers could reduce the COLA by a commensurate amount without lowering real (inflation-adjusted) benefits to beneficiaries below what they received when they became eligible for the program. Moreover, restricting cost-of-living adjustments in Social Security benefits could achieve considerable savings by exacting small reductions in benefits from a large number of people, in contrast with many other budget options that would impose large reductions in benefits on smaller groups.

The impact of even a small reduction in COLAs, however, would be quite large for future older beneficiaries whose benefits would reflect the cumulative effects of a series of smaller COLAs. The people whose benefits would be most affected would be the oldest beneficiaries and those who initially became eligible for Social Security on the basis of disability at an early age.

Moreover, whether or not the real value of the Social Security benefits received by older beneficiaries would then be below what it was when they first became eligible, their benefits would fall relative to those of new beneficiaries. That decline would occur because initial benefits would continue to be based on a formula in which past earnings are indexed to compensate for growth in nominal wages, which is the sum of inflation and real wage growth. Under current law, each new group of beneficiaries that begins receiving benefits at the normal retirement age receives a slightly higher average benefit than the group that became eligible the previous year, reflecting the increase in real wages. If policymakers reduced COLAs, the gap between consecutive age groups would widen accordingly.

700

Veterans Benefits

Budget function 700 covers programs that offer benefits to military veterans. Those programs, most of which are run by the Department of Veterans Affairs, provide health care, disability compensation, pensions, life insurance, education and training, and guaranteed loans. CBO estimates that total outlays for function 700 will be $45.9 billion in 2001, including discretionary outlays of $22.0 billion. Over the past decade, discretionary outlays for veterans' benefits have increased almost every year.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	13.0	14.1	15.3	16.2	17.2	17.6	17.8	18.9	18.9	19.3	20.9	22.5
Outlays												
Discretionary	13.0	13.8	15.1	15.8	16.7	17.4	17.6	18.6	18.5	19.4	20.8	22.0
Mandatory	16.1	17.5	19.0	19.8	20.9	20.5	19.4	20.7	23.3	23.8	26.3	23.9
Total	29.1	31.3	34.1	35.7	37.6	37.9	37.0	39.3	41.8	43.2	47.1	45.9
Memorandum:												
Annual Percentage Change in Discretionary Outlays		5.9	9.8	4.7	5.7	4.3	1.0	5.7	-0.6	4.7	7.1	6.1

700-01 Charge Monthly Rather Than Up-Front Fees for VA Mortgage Insurance

	Savings (Millions of dollars) Budget Authority	Outlays
2002	100	100
2003	105	105
2004	109	109
2005	111	111
2006	115	115
2002-2006	540	540
2002-2011	1,874	1,874

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

700-04

The Department of Veterans Affairs (VA) operates a home loan guaranty program that insures mortgages for active-duty military personnel and veterans. Borrowers taking advantage of the program pay a one-time, up-front funding fee. In contrast, borrowers using private mortgage insurance generally pay monthly fees.

This option would replace the up-front fee in the VA program with an annual premium, paid monthly, starting in 2002. (Provisions of option 700-04 that would eliminate planned reductions in the fee for some borrowers are included in this option.) Budget savings would total $540 million over five years and $1.9 billion through 2011. Three-fifths of those savings would come from increased revenues under the monthly premium, and the rest would come from eliminating the fee reduction now scheduled to take effect in fiscal year 2009. Actual savings from the option, however, would depend on future economic conditions: savings could be lower if the program experienced high rates of default or high rates of refinancing to conventional loans.

Besides saving money for the VA, changing from an up-front fee to a premium paid monthly would have advantages for participants in the program. First, it would increase fairness in several ways. Borrowers would be charged for mortgage insurance only for the years that they needed it. Active-duty military personnel who regularly change their duty station would pay less than they do under the current fee structure. For example, borrowers who sold their home after five years would save more than $660 (on a present-value basis) with a monthly premium compared with a 2 percent up-front fee on a loan with no down payment. The monthly premium would also cause borrowers who defaulted on their mortgage to pay significantly more toward their insurance than they do now; when the up-front fee is financed as part of the mortgage—as it typically is today—borrowers who subsequently default pay very little of the fee.

Second, the premium assumed in this option (0.37 percent per year) is much lower than the rates that private mortgage insurers charge for comparable coverage. Thus, the program would still provide a significant benefit to military personnel.

Third, because the up-front fee is usually financed as part of the mortgage, adopting a monthly premium would reduce the amounts borrowed, making it easier for borrowers to sell their homes, and thus reduce rates of default and foreclosure. Today, since most VA mortgages combine financing of the up-front fee with no down payment, the program creates "upside-down" loans whose balances are greater than the underlying property values. Borrowers in that situation must wait for the price of their home to appreciate significantly before they can afford to sell it and move. If the price does not rise fast enough, default becomes a possibility when borrowers must move to a new location. The January 1999 report of the Congressional Commission on Servicemembers and Veterans Transition Assistance raised concern about upside-down loans and their added risk of default. By lowering default and foreclosure rates, this option could lower the number of direct loans the VA makes to facilitate the sale of foreclosed properties. Because the VA incurs a subsidy cost for its direct loans, this option could provide additional budgetary savings beyond the estimates shown here.

Changing the fee structure for VA mortgage insurance could have drawbacks, however. First, the department would need to establish a system to receive monthly premium receipts from lenders, which could necessitate new accounting and computer systems. Second, although the change would reduce the amounts borrowed, it would actually increase monthly mortgage payments by an average of $20 during the years in which it was due. To avoid that increase, borrowers could purchase homes of lower value (an average of $2,900 lower). Or they could opt for a combination of smaller increases in monthly payments and smaller decreases in the value of the homes they purchased.

700-02 End Future Awards of Veterans' Compensation for Certain Veterans with Low-Rated Disabilities

	Savings (Millions of dollars)	
	Budget Authority	Outlays
2002	28	26
2003	87	83
2004	149	145
2005	230	228
2006	283	282
2002-2006	777	765
2002-2011	3,299	3,258

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

700-03

Approximately 2.3 million veterans who have service-connected disabilities receive veterans' disability compensation benefits. The amount of compensation is based on a rating of the individual's impairment that is intended to reflect an average reduction in the ability to earn wages in civilian occupations. Veterans' disability ratings range from zero to 100 percent (most severe). Veterans who are unable to maintain gainful employment and who have ratings of at least 60 percent are eligible to be paid at the 100 percent disability rate. Additional allowances are paid to veterans who have disabilities rated 30 percent or higher and who have dependent spouses, children, or parents.

About 50,000 veterans with disability ratings below 30 percent are added to the rolls every year, receiving benefits of between $70 and $188 a month. Federal outlays could be reduced by $3.3 billion during the 2002-2011 period by not awarding benefits for those low-rated disabilities in future cases.

Making veterans with new disability ratings below 30 percent ineligible for compensation would concentrate spending on the most impaired veterans. Performance in civilian jobs depends less now on physical labor than it did when the disability ratings were originally set, and improved reconstructive and rehabilitative techniques are now available, so physical impairments rated below 30 percent may not reduce veterans' earnings. Those impairments include conditions such as mild arthritis, moderately flat feet, or amputation of part of a finger—conditions that would not affect the ability of veterans to work in many occupations today.

Veterans' compensation could be viewed, however, as career or lifetime indemnity payments owed to veterans disabled to any degree while serving in the armed forces. Moreover, some disabled veterans might find it difficult to increase their working hours or otherwise make up for the loss of expected compensation payments.

700-03 End Future Awards of Veterans' Disability or Death Compensation When a Disability Is Unrelated to Military Duties

	Savings (Millions of dollars) Budget Authority	Outlays
2002	70	65
2003	219	207
2004	379	365
2005	582	580
2006	733	728
2002-2006	1,983	1,945
2002-2011	8,614	8,500

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

700-02

Veterans are eligible for disability compensation if they either receive or aggravate disabilities while on active-duty service. Service-connected disabilities are defined as those resulting from diseases, injuries, or other physical or mental impairments that occurred or were intensified during military service (excluding those resulting from willful misconduct). Disabilities need not be incurred or made worse while performing military duties to be considered service-connected; for example, disabilities incurred while on leave also qualify. The federal government gives death compensation awards to survivors when a service-connected disability is related to the cause of death.

As many as 50 percent of veterans receiving compensation payments may qualify for them on the basis of injuries or diseases that were neither incurred nor aggravated while performing military duties. Ending disability and death compensation awards in such cases in the future would reduce outlays by $8.5 billion over 10 years. Approximately 5 percent of those savings would come from reduced death compensation awards.

This option would make disability compensation of military personnel comparable with that of federal civilian employees under workers' compensation arrangements. However, veterans' groups might argue that veterans are owed disability compensation because of their service, even for disabilities unrelated to military duties. In addition, because military personnel are assigned to places where situations may sometimes be volatile, they have less control than civilians over where they spend their off-duty hours. Therefore, in many cases it might be difficult to determine whether a veteran's disease, injury, or impairment was entirely unrelated to military duties. The formal appeals system of the Department of Veterans Affairs (VA) could be extended to cover rulings specifying that disabling conditions were unrelated to military duties.

Data collected by the VA indicate that more than 200,000 veterans receive a total of $1.3 billion a year in VA compensation payments for diseases that, according to the General Accounting Office, are generally neither caused nor aggravated by military service. Those diseases include arteriosclerotic heart disease, diabetes mellitus, multiple sclerosis, Hodgkin's disease, chronic obstructive pulmonary disease (including chronic bronchitis and pulmonary emphysema), hemorrhoids, schizophrenia, osteoarthritis, and benign prostatic hypertrophy. Ending new awards only for veterans with those diseases would have a more limited impact than this option because it would not affect all veterans whose compensable disabilities are unrelated to military service. Such an approach would yield smaller savings than this option—about $1.4 billion over the 2002-2011 period.

700-04 Eliminate "Sunset" Dates on Certain Provisions for Veterans

	Savings (Millions of dollars)	
	Budget Authority	Outlays
2002	0	0
2003	304	304
2004	320	320
2005	336	336
2006	350	350
2002-2006	1,310	1,310
2002-2011	4,723	4,721

SPENDING CATEGORY:

Mandatory

RELATED OPTIONS:

700-01 and 700-05

Five provisions included in the Balanced Budget Act of 1997 that affect programs for veterans will expire in the next decade. The provisions either limit benefits or recover certain costs of those programs; consequently, allowing them to expire would raise overall spending for veterans' benefits. Under those provisions:

- If a veteran with a service-connected disability has outside health insurance and receives treatment from the Department of Veterans Affairs (VA) for a non-service-connected disability, the VA may collect the reasonable cost of that treatment from the insurer.

- The VA may charge copayments to some veterans who receive inpatient and outpatient care and outpatient medication from VA facilities.

- The VA is authorized to acquire information from the Internal Revenue Service (IRS) to determine veterans' eligibility for pensions and other benefits.

- In the case of certain veterans who are in nursing facilities, have no dependents, and are eligible to have Medicaid cover their nursing home care, the VA must reduce their pension for military service to $90 per month (since Medicaid will pay for their care). That situation lowers pension costs for the VA but increases costs for the Medicaid program, which is paid for jointly by the federal and state governments.

- The fees that the VA charges for first-time and repeated use of the veterans' home loan program were raised, and the ways in which the department acquires property were made more cost-effective.

The first two provisions will expire on September 30, 2002—their "sunset" date. The other three will expire on September 30, 2008.

This option would make the effects of those provisions permanent by eliminating the sunset date in each case. In addition, it would permanently authorize the IRS to provide information to the VA and eliminate the VA's current authority to spend the money it collects from health insurers (beginning in 2003, those collections would revert back to the Treasury). If all five provisions were made permanent and the collections were deposited in the Treasury, savings during the 2002-2011 period would total $4.7 billion compared with the current level of spending.

The main advantage of this option is that it would convert the temporary savings achieved by those provisions into continuing savings. The main disadvantage is that some veterans or their insurers would pay higher costs. And states (through their Medicaid programs) would continue to bear more of the costs of caring for veterans in nursing facilities than they would if the provisions lapsed.

700-05 Increase Beneficiaries' Cost Sharing for Care at VA-Operated Nursing Facilities

	Savings (Millions of dollars)	
	Budget Authority	Outlays
2002	195	195
2003	201	201
2004	208	208
2005	214	214
2006	221	221
2002-2006	1,039	1,039
2002-2011	2,253	2,253

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

700-04

Veterans may receive long-term care in nursing homes operated by the Department of Veterans Affairs (VA) depending on the availability of resources. That care is rationed primarily on the basis of service-connected disabilities and income. Under certain conditions, a veteran may receive care at the VA's expense in state-operated or privately run nursing facilities.

The VA may charge copayments to veterans with no compensable service-connected disabilities and high enough income when they receive more than 21 days of care in VA-run nursing homes. In 2001, the VA will collect about $50 million from providing such extended care services, including nursing home care, the Congressional Budget Office estimates. Those collections can be spent without appropriation. According to the General Accounting Office, state-operated nursing facilities for veterans and community long-term care facilities that treat veterans have copayment policies that offset a larger share of their operating expenses than the VA, recovering as much as 43 percent through copayments. (Estate-recovery programs are another way they offset costs.)

This option would authorize the VA to revise its cost-sharing policies to recover more of the cost of providing care in VA nursing facilities. The department would be required to collect a minimum of 10 percent of its operating costs, but it could determine what type of copayments to charge and who would be eligible to pay them. For example, it could apply the current copayment to a broader category of veterans or require the veterans who now make copayments to pay more. Recovering 10 percent of the VA's operating costs would save $195 million in 2002 and almost $2.3 billion over 10 years. Achieving those savings would require depositing the receipts in the Treasury rather than allowing the VA to retain and spend them.

Proponents of this option would argue that veterans in VA nursing facilities are getting a far more generous benefit than similar veterans in non-VA facilities. Because VA-run nursing homes are relatively scarce, veterans lucky enough to be admitted to one have an advantage over similar veterans elsewhere. Recovering more of the expense at VA facilities would make that benefit more equitable among veterans and different sites of care.

Opponents of this option would argue that beneficiaries in nursing facilities may be less able to make copayments than beneficiaries receiving other types of care. They would also argue that allowing the VA to charge veterans with service-connected disabilities would be inconsistent with other medical benefits that those veterans receive. The VA could continue to exempt those veterans, but it would have to charge high-income veterans without service-connected disabilities even more to achieve the 10 percent recovery level.

750

Administration of Justice

Budget function 750 covers programs that provide judicial services, law enforcement, and prison operation. The Federal Bureau of Investigation, the Customs Service, the Drug Enforcement Administration, and the federal court system are all supported under this function. CBO estimates that discretionary outlays for function 750 will total $29.3 billion in 2001. Since 1990, this function has experienced steady and often significant annual increases in outlays, reflecting continued concern about drug-related and other crime. Outlays in 2001 will be approximately triple the 1990 level.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	12.4	12.7	14.3	14.6	15.2	18.3	20.7	22.9	24.8	26.5	27.0	29.9
Outlays												
Discretionary	10.1	11.9	14.0	14.7	15.0	16.2	17.6	20.1	22.2	25.0	27.0	29.3
Mandatory	-0.1	0.3	0.4	0.3	0.2	0.1	0	0.1	0.7	0.9	1.0	0.7
Total	10.0	12.3	14.4	15.0	15.3	16.2	17.5	20.2	22.8	25.9	28.0	30.0
Memorandum:												
Annual Percentage Change in Discretionary Outlays		18.3	17.2	4.8	2.6	7.5	8.9	14.3	10.2	12.8	8.1	8.4

750-01 Eliminate Funding for Drug Interdiction and International Antidrug Activities

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	2,575	1,681
2003	2,575	2,260
2004	2,575	2,465
2005	2,575	2,527
2006	2,575	2,543
2002-2006	12,873	11,476
2002-2011	25,745	24,324
Relative to Inflated Appropriations		
2002	2,703	1,730
2003	2,766	2,363
2004	2,831	2,629
2005	2,896	2,763
2006	2,961	2,847
2002-2006	14,156	12,333
2002-2011	30,023	27,804

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

750-02 and 800-05

The federal government—including both civilian agencies and the Department of Defense—currently spends roughly $18 billion a year to control illegal drugs. Of that amount, approximately $3 billion goes for efforts to prevent drugs from entering the United States. Approximately two-fifths of that $3 billion for interdiction and international activities is allocated under the administration of justice budget function. Another one-fourth is allocated to defense-related efforts. (The remainder is split between the budget functions for transportation and international affairs.) Eliminating funds for drug interdiction and international activities would save, over the 2002-2011 period, $24.3 billion relative to the 2001 funding level and $27.8 billion relative to that level adjusted for inflation.

Critics of the funding claim that interdiction and international activities are both more costly and less effective than other antidrug efforts, that no clear proof of their efficacy exists, and that the federal government could drastically reduce the resources devoted to such activities without affecting drug use over the long term. In fact, some sources show that illicit drugs are less expensive and more readily available now than they were before the federal government began trying to control them. According to some research, interdiction and international activities do not reduce the demand for drugs and have less impact on the price that users pay than state and locally funded efforts do. Although interdiction and international activities increase producers' costs, those costs are only a small part of the charges to users. The bulk of those charges are added in the later stages of processing and delivery. (Of course, state and local efforts also face several obstacles: competition among producers and distributors, the large markup from wholesale to retail prices, and the ability of distributors to dilute the drugs to maintain an end price that customers can afford.)

Proponents argue that a variety of reasons exist to support interdiction and international activities. Notable successes, including the destruction of major drug trafficking organizations and the large quantities of illegal drugs seized or destroyed, contradict claims of ineffectiveness. In fact, supporters of interdiction and international activities argue, street prices would have been much lower, and the availability of drugs much greater, without extensive funding for those activities. Moreover, if the goal of the federal government is to control, and not simply to reduce, the use of illegal drugs, some effort to decrease the flow of drugs into the country will be necessary. Proponents of antidrug activities argue that given the unacceptably high level of drug use, the government should reform allegedly ineffective programs rather than eliminate them. Finally, in cases in which antidrug activities are integrated with other functions of an agency, cutting back funding for interdiction and international efforts would also disrupt those related activities.

750-02 Reduce Funding for Justice Assistance and Certain Justice-Related Activities

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	1,193	410
2003	1,260	826
2004	1,260	1,133
2005	1,260	1,260
2006	1,260	1,260
2002-2006	6,233	4,889
2002-2011	12,533	11,189
Relative to Inflated Appropriations		
2002	1,220	420
2003	1,314	854
2004	1,339	1,183
2005	1,365	1,337
2006	1,392	1,364
2002-2006	6,630	5,158
2002-2011	13,999	12,380

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

750-01 and 800-05

In addition to the law enforcement activities that the Department of Justice carries out directly, it and related government entities provide various types of law enforcement or legal assistance to individuals, community organizations, and state and local law enforcement agencies. That assistance, which will amount to about $5 billion in 2001, often takes the form of financial grants to support research, training, and other programs.

This option would consolidate and reform justice assistance programs and reduce the amount spent on them by 20 percent. It would also terminate the Legal Services Corporation and the State Justice Institute. Those cuts can, of course, be considered separately. Taken together, they would save, over the 2002-2011 period, $11.2 billion relative to the 2001 funding level and $12.4 billion relative to that level adjusted for inflation.

The major criticisms of the justice assistance programs are that they do not respond to local concerns and priorities and that they often address problems that are not federal responsibilities. Consolidating grant programs would yield administrative savings, and switching from categorical to block grants would allow grant recipients to focus their efforts on the areas of greatest local need. Similar arguments apply to the Legal Services Corporation, which provides legal assistance to the poor in civil matters. Critics contend that responsibility for such assistance more properly lies with state and local governments. Some critics also charge that the activities of Legal Services lawyers tend to focus on advancing social causes rather than on helping poor people with routine legal problems. (The Congress modified the Legal Services Corporation in 1996, restricting the types of cases and clients it could represent by, for example, prohibiting the corporation's lawyers from representing plaintiffs in class-action suits.) The State Justice Institute, which makes grants for research on criminal justice matters, likewise faces questions of responsibility and jurisdiction. The criticisms leveled against the institute are that much of the research it sponsors is similar to research conducted elsewhere and that in neglecting to publicize its research or cooperate with the courts in instituting reforms and new ideas, it does too little to affect the states' actual administration of justice.

Supporters of funding for justice assistance argue that it is merited on practical grounds. The categorical grant system, they maintain, is working as intended: in certain cases, the problems the grants address have a national scope but might be ignored by states without the incentive of federal funds. Reduced federal spending would, moreover, disproportionately affect those state-run programs that depend heavily on federal funding, such as juvenile justice programs. In defending the Legal Services Corporation and the State Justice Institute, supporters argue that the federal government has an obligation to provide assistance in areas with scarce support from state and private sources.

800

General Government

Budget function 800 covers the central management and policy responsibilities of both the legislative and executive branches of the federal government. Among the agencies it funds are the General Services Administration and the Internal Revenue Service. CBO estimates that in 2001, total outlays for function 800 will be $16 billion—most of which is discretionary spending. In the past decade, spending for the function increased fairly steadily. It is expected to jump in 2001 for a number of reasons, including a projected drop in certain offsetting receipts and an increase in payments of some large claims and judgments against the government.

Federal Spending, Fiscal Years 1990-2001 (In billions of dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Estimate 2001
Budget Authority (Discretionary)	11.5	12.2	11.3	11.6	12.1	11.9	11.6	11.8	12.1	13.7	12.4	14.0
Outlays												
Discretionary	9.0	10.4	11.0	11.5	11.7	12.4	11.8	12.1	12.0	12.4	12.2	13.8
Mandatory	1.6	1.4	2.0	1.5	-0.3	1.6	0.2	0.8	3.7	3.3	1.0	2.3
Total	10.6	11.7	13.0	13.1	11.3	14.0	12.0	12.9	15.7	15.8	13.2	16.0
Memorandum:												
Annual Percentage Change in Discretionary Outlays		15.3	6.3	4.8	1.1	6.3	-5.1	2.7	-0.5	3.2	-1.6	12.6

800-01 Restrict Public-Purpose Transfers of Real Property by the General Services Administration

	Added Receipts (Millions of dollars)
2002	50
2003	50
2004	50
2005	50
2006	50
2002-2006	250
2002-2011	500

SPENDING CATEGORY:

Mandatory

The General Services Administration (GSA) makes surplus federal buildings, land, and other property available to state and local governments, nonprofit organizations, and others for use as parks, prisons, schools, and airports. The government makes the property available free or at deep discounts. In 2000, according to GSA's data, the government donated 51 pieces of property valued at $116 million. For the 1996-2000 period, the value of donations totaled about $500 million. If the government discontinued the program and instead sold surplus property at market value, it could increase offsetting receipts by a total of $500 million over 10 years. (That number represents the net of roughly $560 million in additional receipts minus about $60 million—resulting from GSA's authority to retain and spend 12 percent of such receipts.)

According to critics of GSA's program, selling surplus property, rather than giving it away, would raise revenue for the government and would ensure, through open competition for assets in the market, that property was put to its most highly valued use. Critics note that the government already provides abundant direct and indirect assistance to states and localities to support conservation, education, and other public services. They also point out that nonprofit organizations will receive about $30 billion in federal support in tax deductions for charitable contributions in 2000. In addition, GSA's program provides uneven assistance, favoring areas with a heavy federal presence, according to people who would restrict it.

Advocates of transferring surplus property argue that the program provides valuable support to localities, nonprofit organizations, and others who offer useful public services in areas such as education, conservation, and transportation. The program enables the government to support causes it deems worthy, without having to make appropriations. In addition, advocates argue that transferring surplus property to communities may offset some of the local impact of closing federal installations.

800-02 Eliminate General Fiscal Assistance to the District of Columbia

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	59	59
2003	59	59
2004	59	59
2005	59	59
2006	59	59
2002-2006	295	295
2002-2011	590	590
Relative to Inflated Appropriations		
2002	60	60
2003	61	61
2004	63	63
2005	64	64
2006	65	65
2002-2006	313	313
2002-2011	658	658

SPENDING CATEGORY:

Discretionary

Under the National Capital Revitalization and Self-Government Improvement Act of 1997 (the Revitalization Act), the federal government assumed responsibility for providing certain services to the District of Columbia in exchange for eliminating the annual payment of general assistance to the District. Specifically, the federal government agreed to fund the operations of the District's criminal justice, court, and correctional systems. It also assumed responsibility for paying off more than $5 billion in unfunded liabilities owed by the city to several pension plans, increased the federal share of the city's Medicaid payments, and provided special borrowing authority to the District.

For fiscal year 1998, the Revitalization Act included slightly more than $200 million in assistance for the District that was not related to the obligations specifically assumed by the federal government. Such funding increased in fiscal year 1999, to $232 million, and then dropped to $28 million for fiscal year 2000 and $59 million for fiscal year 2001. The amount for 2001 includes funds for defraying out-of-state tuition costs, constructing a new Metrorail station, and reimbursing the city for expenses related to the Presidential inauguration. Eliminating such funds would save $590 million over the 2002-2011 period relative to current appropriations and $658 million relative to those appropriations adjusted for inflation.

One argument for eliminating such funding is that the federal government relieved the District of Columbia government of the cost of a substantial, and increasing, portion of its budget—criminal justice, Medicaid, and pensions. The proposed trade-off for assuming responsibility for those functions was ending other assistance, including the annual federal payment. Eliminating assistance would be consistent with that policy. Furthermore, the District of Columbia's financial situation may not warrant such assistance.

One argument against eliminating such funding is that the Constitution gives the Congress responsibility for overseeing the District of Columbia (which the Congress has largely delegated to the city government), and the city still has major problems with its public schools, roadways, and other essential city services. Therefore, opponents of this option argue, the need continues for funding assistance. Moreover, the Congress prevents the District of Columbia from imposing commuter taxes as other cities do. Such taxes are levied on nonresidents who work in a city and benefit from city services. Two of three dollars earned in the District of Columbia are earned by nonresidents. Finally, opponents note that continued assistance is justified because a large portion of city property is exempt from local taxes, including the property owned by the federal government or foreign nations, which accounts for over 40 percent of property in the city.

800-03 Eliminate Mandatory Grants to U.S. Territories

	Savings (Millions of dollars) Budget Authority	Outlays
2002	28	2
2003	28	8
2004	28	13
2005	28	18
2006	28	23
2002-2006	140	64
2002-2011	280	204

SPENDING CATEGORY:

Mandatory

As part of the Covenant to Establish a Commonwealth of the Northern Mariana Islands (CNMI), the federal government agreed to provide financial assistance to CNMI, a U.S. territory. During the 1978-1992 period, the federal government provided CNMI with $420 million for operations, economic development, and infrastructure.

After 1992, the financial assistance agreement between the United States and CNMI requires, in the absence of a new agreement, that grants to the Commonwealth continue indefinitely at the 1992 funding amount—$28 million (earmarked for capital projects). In 1996, Public Law 104-134 reallocated the $28 million in annual grants for fiscal years 1996 through 2002 among CNMI; the territories of Guam, American Samoa, and the Virgin Islands; and the freely associated states of Micronesia and the Marshall Islands. The reallocation was made, in part, because the federal government believed that the goals of the original agreement had been met in CNMI and that other areas had a greater need for assistance. Public Law 106-113 again reallocated the grants for fiscal years 2000 through 2003.

This option, which assumes a new agreement with CNMI, would eliminate the mandatory grants to the U.S. territories and freely associated states, which would save about $200 million over the 2002-2011 period. Because the territories spend new grants relatively slowly, eliminating the grants would not save much money in the first several years. The Department of the Interior could include additional funding for infrastructure and other purposes as part of its annual request for discretionary appropriations; however, the territories would no longer be entitled to the $28 million, and requests for additional appropriations for infrastructure grants would compete with all other appropriation requests. For instance, in fiscal year 2001, the Congress appropriated $48 million in discretionary funding for the territories.

Aside from reducing mandatory spending, eliminating the grants would put assistance for capital projects on an equal footing with other assistance to the territories and with similar grants to state and local governments. In addition, some people argue that the reason for providing mandatory assistance to CNMI has ended because its goals have been met. The 1996 reallocation of funds among the insular areas would seem to support that conclusion. In addition, CNMI has had considerable difficulty developing projects, raising matching funds, and receiving approval from the Department of the Interior.

Those who would continue the grants argue that CNMI and the other insular areas still have significant needs and that the mandatory grants ensure that funding is available. In addition, CNMI has a growing economy and increasing self-sufficiency, which supporters of this option cite as proof that the federal assistance works. Others argue that any further change in the funding should be part of a new financial arrangement between the United States and CNMI. Otherwise, CNMI could view the unilateral ending of the assistance as a breach of good faith on the part of the U.S. government, which could have political and legal repercussions.

800-04 Require the Internal Revenue Service to Deposit Fees from Installment Agreements in the Treasury as Miscellaneous Receipts

	Savings (Millions of dollars) Budget Authority	Outlays
2002	82	76
2003	81	81
2004	79	79
2005	80	80
2006	81	81
2002-2006	402	396
2002-2011	820	814

SPENDING CATEGORY:

Mandatory

The 1996 appropriation act for the Department of the Treasury, the Postal Service, the Executive Office of the President, and certain independent agencies authorizes the Internal Revenue Service (IRS) to establish new fees and increase existing fees. The act also allows the IRS to retain and spend receipts collected from those fees, up to an annual limit of $119 million. The IRS has used that authority mainly to charge taxpayers a fee for entering into payment plans with the agency. In fiscal year 1999, the IRS collected $88 million in fee receipts. In fiscal year 2000, however, it collected only $76 million in fees. The IRS attributes the smaller amount to a lower demand for payment plans that arose because the agency began allowing taxpayers to pay their remaining tax bills with credit cards.

Requiring the IRS to deposit those receipts in the Treasury would eliminate the agency's ability to spend them. That would reduce the IRS's direct spending by $814 million over the 2002-2011 period. That estimate assumes that removing the spending authority would not substantially reduce the amount the IRS collects each year in such fees.

An argument for eliminating the IRS's authority to spend the receipts is that processing payment plans with the taxpayers is an administrative function directly related to the IRS's mission—getting citizens to pay the taxes they owe—and for which the agency already receives annual appropriations. For fiscal year 2001, for instance, the IRS received $8.85 billion in direct appropriations (not counting transfers). That argument may have particular merit because the IRS does not directly use the receipts collected from fees on installment agreements to fund the processing of those agreements. A second argument is that the spending authority could create the incentive for the IRS to unnecessarily encourage taxpayers to pay their taxes in installments. Similarly, it could encourage the agency to seek new and unnecessary fees.

According to a contrary argument, allowing the IRS to generate and use fee receipts helps ensure that the federal government's main revenue collector has sufficient funding to fulfill its mission. Some people would argue that even an annual decrease of roughly $80 million could negatively affect revenue collection. In addition, eliminating the spending authority could reduce the IRS's incentive to allow, or its ability to provide for, installment payments, thus hurting those taxpayers who would benefit from such arrangements.

800-05 Eliminate Federal Antidrug Advertising

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	185	56
2003	185	148
2004	185	185
2005	185	185
2006	185	185
2002-2006	925	759
2002-2011	1,850	1,684
Relative to Inflated Appropriations		
2002	189	57
2003	193	152
2004	196	193
2005	200	197
2006	204	200
2002-2006	982	799
2002-2011	2,062	1,861

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

750-01 and 750-02

The 1998 appropriation act for the Department of the Treasury, the Postal Service, the Executive Office of the President, and certain independent agencies authorized and provided funding of $195 million to the Office of National Drug Control Policy (ONDCP) for a national antidrug media campaign. The Omnibus Consolidated and Emergency Supplemental Appropriations Act provided $185 million for the program in fiscal year 1999 and authorized $195 million for each of fiscal years 2000 through 2002. Funds provided to ONDCP can be used to test and evaluate advertising, purchase media time, and evaluate the effects. In addition, the agency must try to get donations from nonfederal sources to finance part of the costs.

For fiscal year 2001, the Treasury and General Government Appropriations Act provided $185 million for the antidrug media program. Eliminating it would save $1.7 billion over the 2002-2011 period, under the assumption that the Congress would otherwise continue to provide the same level of funding for the program that it provided for fiscal year 2001. Compared with that funding level adjusted for inflation, this option would save $1.9 billion over 10 years.

Arguments for terminating funding of the advertising campaign are many. One is that solid empirical evidence of media campaigns' effectiveness in either preventing or reducing drug use is lacking. Some analysts claim that media spots do not reduce drug use by minors as effectively as treatment or interdiction. Furthermore, since nonprofit organizations, such as the Partnership for a Drug-Free America, already conduct educational programs about the dangers of drug use, ONDCP's campaign may duplicate private and local efforts. In any event, with more than $350 million in available balances at the start of this year and the authority to solicit and use public donations, ONDCP could continue the media campaign, on a much smaller scale, without an annual appropriation.

Proponents of the program argue that educating the young about the hazards of drug use is a national responsibility. Some point to the "Just Say No" campaign begun by former First Lady Nancy Reagan in the 1980s as an example of the successful use of the national media to raise young people's awareness of the dangers of drugs. Supporters also argue that the cost of drug abuse to the country is so high that it is worthwhile to maintain a program that reduces drug use even slightly.

800-06 Eliminate the Presidential Election Campaign Fund

	Savings (Millions of dollars) Budget Authority	Outlays
2002	60	0
2003	60	29
2004	60	225
2005	60	15
2006	60	0
2002-2006	300	269
2002-2011	600	632

SPENDING CATEGORY:

Mandatory

During each Presidential election cycle, the federal government distributes money from the Presidential Election Campaign Fund to candidates and political parties who agree to limit their campaign expenditures. All candidates —even those who do not accept public funds—are also bound by federal limits on campaign contributions, established in 1974, that restrict donations by individuals to $1,000.

This option would eliminate the fund and stop the flow of public funds to Presidential candidates and political parties. (Policymakers might, in conjunction with this option, wish to change the rules limiting contributions by individuals, but such changes would not directly affect the budget.) The first savings from this option would not appear until 2003, so total savings over the first five years would be only $269 million, but the total savings through 2011 would be $632 million.

Critics of the Presidential Election Campaign Fund argue that the current system of public funding is unjustified and inefficient. Many critics feel that federal funding has done little to reduce the time or effort that candidates spend raising money from private sources. They also charge that candidates have found numerous indirect means of circumventing limits on expenditures, such as "issue advertisements" paid for by political parties or special interest groups. They dispute the need to give public funds either to major parties and candidates, which are already well financed, or to minor parties and candidates, which have little chance of success. Finally, the proportion of taxpayers who choose (on their income tax return) to earmark a portion of their taxes for the fund has declined steadily over the past two decades to less than 15 percent, which suggests that the program has little public support.

Advocates of the program believe that the current system limits the influence of special interests and wealthy contributors and allows poorly funded candidates to positively influence the national debate. Specifically, they argue that public funding has reduced candidates' and parties' dependence on contributions from special interest groups, corporations, and the wealthy. They note that the funds given to candidates from a minor party constitute only a small portion of total public spending on Presidential elections (for the five elections between 1976 and 1992, the amount was less than 2 percent) and allow such candidates to bring public attention to issues that might otherwise be ignored.

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Allowances

The President's budget and the Congressional budget resolution sometimes include amounts in function 920 to reflect proposals that are not clearly specified or that would affect multiple budget functions. Since the Congress actually appropriates money for specific purposes, there are no budget authority or outlay totals for function 920 in historical data. In this volume, function 920 includes options that cut across programs and agencies and would affect multiple budget functions.

920-01 Reduce the Number of Political Appointees

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	n.a.	n.a.
2003	n.a.	n.a.
2004	n.a.	n.a.
2005	n.a.	n.a.
2006	n.a.	n.a.
2002-2006	n.a.	n.a.
2002-2011	n.a.	n.a.
Relative to Inflated Appropriations		
2002	60	60
2003	62	62
2004	71	70
2005	65	65
2006	69	69
2002-2006	327	326
2002-2011	708	707

NOTES: Savings are measured from the 2001 funding level adjusted for pay raises and changes in employment.

n.a. = not applicable.

SPENDING CATEGORY:

Discretionary

RELATED CBO PUBLICATION:

Comparing the Pay and Benefits of Federal and Nonfederal Executives (Memorandum), November 1999.

The term "political appointee" generally refers to employees of the federal government who are appointed by the President, some with and some without Senate confirmation, and to certain policy advisers hired at lower levels. In this option, the term refers to Cabinet secretaries, agency heads, and other Executive Schedule employees at the very top ranks of government; top managers and supervisors who are noncareer members of the Senior Executive Service; and confidential aides and policy advisers referred to as Schedule C employees. The total number of employees in such positions, according to the Congressional Budget Office's projections, will average about 2,800 over the next 10 years. If the government instead capped the number of political appointees at 2,200, savings over the 2002-2011 period would total more than $700 million. The current average salary for the political appointees most likely to be affected is $93,000, CBO estimates.

Reports from several groups, including the National Commission on the Public Service and the Twentieth Century Fund, have called for cuts in the number of political appointees. The National Commission on the Public Service, also known as the Volcker Commission, called for setting a limit similar to the one described here. In addition to the problem of excessive organizational layering, the Volcker Commission expressed concerns about many appointees' lack of expertise in government operations and programs. In political appointments, the commission asserted, political loyalties generally count more than knowledge of government. Moreover, few appointees are in office long enough to acquire the necessary skills and experience to master their job. That lack of experience, according to the commission, means that political appointees in many instances are not effective in carrying out the policies of the President they serve and can disrupt an agency's operations. As a result, career managers become frustrated and demoralized, making recruitment and retention difficult in the top ranks of the career civil service.

Critics of reducing the number of political appointees cite the importance of a President's establishing control over the government by having like-minded individuals and allies strategically situated. Those appointees, critics note, form an important link to the electorate because they help to ensure governmentwide leadership that is consistent with the philosophy of each elected President. Such appointees, moreover, can offer fresh perspectives and innovation. The high rate of turnover among appointees, critics argue, means that those officials make way for someone new before they reach the point of burnout.

920-02 Charge Federal Employees Commercial Rates for Parking

	Added Receipts (Millions of dollars)
2002	110
2003	120
2004	120
2005	120
2006	130
2002-2006	600
2002-2011	1,290

SPENDING CATEGORY:

Mandatory

RELATED CBO PUBLICATION:

Comparing Federal Employee Benefits with Those in the Private Sector (Memorandum), August 1998.

The federal government leases and owns more than 200,000 parking spaces, which it allocates to its employees—in most cases without charge. Requiring federal government employees to pay commercial rates for their parking could yield receipts of $1.3 billion over 10 years.

Federal workers in the largest metropolitan areas would bear most of the new charges. Those in the Washington, D.C., metropolitan area would pay about 75 percent of the total charge. (Federal employees in less commercially developed areas, where charging for parking is uncommon, would not face new parking charges.) Employees who continued to use federally owned or managed parking would, on average, pay about $125 per month; employees who currently use free or heavily subsidized parking could choose alternative means of transportation, such as public transportation or carpooling, to avoid the charge.

Supporters of this option favor charging commercial rates for parking because it would encourage federal employees to use public transportation or to carpool. That shift would reduce the flow of cars into urban areas, cutting down on energy consumption, air pollution, and congestion. By acting as a model employer in this regard, the federal government could more effectively call on others to reduce energy consumption and pollution. In addition, commercial pricing would indicate the demand for parking by federal workers more accurately, enabling the government to allocate spaces to those who valued them the most. Moreover, if commercial rates reduced the demand for spaces sufficiently, the government might be able to put the unused spaces to new, higher-valued uses. Finally, some observers argue that the federal government should not provide a valuable commodity, such as parking, free to workers who can afford to pay for it.

Critics of this option argue that by charging for parking, the government would unfairly penalize workers in urban areas who have difficulty obtaining access to alternative transportation or who drive to work for valid personal reasons. Charging for parking would also reduce federal employees' total compensation. In addition, critics note that many private-sector employers provide free parking. Some people also have argued that charging commercial rates would merely reration the existing spaces without reducing the number of people who drive to work. According to that view, the spaces would simply be allocated by willingness to pay rather than by rank, seniority, or other factors.

920-03 Impose a Fee on Government-Sponsored Enterprises' Investment Portfolios

	Added Receipts (Millions of dollars)
2002	936
2003	1,020
2004	1,112
2005	1,201
2006	1,297
2002-2006	5,565
2002-2011	13,430

SPENDING CATEGORY:

Mandatory

RELATED OPTION:

370-08

RELATED CBO PUBLICATIONS:

Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac (Study), May 1996.

The Federal Home Loan Banks in the Housing Finance System (Study), July 1993.

Controlling the Risks of Government-Sponsored Enterprises (Study), April 1991.

Government-sponsored enterprises (GSEs) are private financial institutions chartered by the federal government. Today, they support the flow of funds to agriculture, housing, and small business. GSEs achieve their public purposes by borrowing on the strength of an implied federal guarantee of debt obligations. Investors infer the guarantee from special provisions in GSE charters that create privileges akin to those of government agencies. Those privileges include Congressional support for the enterprises public purposes, exemption from state and local income taxes, and lines of credit with the U.S. Treasury. The implicit guarantee lowers the cost of borrowing for GSEs, thus conveying subsidies that give a competitive advantage in financial markets.

Before the 1990s, GSEs generally used the money they borrowed to make loans to, or buy loans made by, other lenders. More recently, four GSEs—Fannie Mae, Freddie Mac, Farmer Mac, and the Federal Home Loan Bank System—have used borrowed funds to acquire large portfolios of debt securities. Those investments consist mainly of mortgage-backed securities (MBSs) but also include corporate bonds, mortgage revenue bonds, and asset-backed securities. At the end of 2000, the investment portfolios of the four enterprises totaled $773 billion, or 45 percent of their combined assets. That investment activity utilizes arbitrage opportunities between the market for GSE debt and that for private securities, whereby GSEs profit from the difference in yields between private investments and their own subsidized cost of funds.

Opportunities for such arbitrage could be lessened through imposition of a fee on non-mission-related assets. A fee of 10 basis points (10 cents per $100 of investments) would provide the federal government with $936 million in savings in 2002, $5.6 billion over five years, and $13.4 billion through 2011. While such a fee would reduce the net income of the four GSEs, it would not be so large as to preclude nonmission investments. Indeed, a moderate level of non-mission investments may be necessary for maintaining sufficient liquidity. The GSEs might also try to recoup lost net income by increasing risk exposure on investments or by increasing the prices they charge for risk-management services. Each GSE, however, has a safety-and-soundness regulator that would make sure that any change in business focus would not jeopardize operations.

Proponents of imposing the fee argue that the affected GSEs could still attract equity capital and achieve their public missions with the fee. The Congress never intended the GSEs to crowd other investors out of markets for MBSs and other debt securities. The three housing GSEs could still increase their purchases of MBSs when prices fell and thereby stabilize those markets. Critics counter that greater risk taking by the four enterprises could result as alternative investments were found, which would increase the government's risk exposure. Federal risk-based capital requirements and regulatory examinations, if effective, would limit the amount of any increase in risk borne by the government from such actions. Fannie Mae and Freddie Mac conceivably could compensate for the fee by increasing interest rates on new mortgages they bought, but competition from wholly private firms and between those two GSEs would limit their ability to do so.

920-04 Repeal the Service Contract Act

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	980	930
2003	980	980
2004	980	980
2005	980	980
2006	980	980
2002-2006	4,900	4,850
2002-2011	9,800	9,750
Relative to Inflated Appropriations		
2002	1,075	1,025
2003	1,100	1,100
2004	1,125	1,125
2005	1,150	1,150
2006	1,175	1,175
2002-2006	5,625	5,575
2002-2011	11,895	11,825

SPENDING CATEGORY:

Discretionary

The McNamara-O'Hara Service Contract Act of 1965 (SCA) sets basic labor standards for employees working on government contracts whose main purpose is to furnish labor, such as laundry, custodial, and guard services. A contractor covered by the law generally must provide such employees with wages and fringe benefits that at least equal those prevailing in the contractor's locality or those specified by a collective bargaining agreement of the previous contractor. The Department of Labor measures prevailing wages in an area according to the specific wages and benefits earned by at least 50 percent of workers in a particular type of job or by the average of the wages and benefits paid to workers in that type of job. The provision about collective bargaining agreements applies to successor contractors, regardless of whether their employees are covered by such an agreement.

In 2000, the SCA covered approximately 27,000 contracts valued at about $33 billion. The Department of Defense accounted for about half of that dollar value.

The cost of services procured by the federal government could be reduced by repealing the SCA. Repealing the law would save nearly $9.8 billion in discretionary outlays over the 2002-2011 period relative to current appropriations and $11.8 billion relative to current appropriations adjusted for inflation—provided that federal agencies' appropriations were lowered to reflect the anticipated reduction in costs.

Federal procurement costs would fall because repealing the SCA would promote greater competition among bidders, although the precise magnitude of the savings is difficult to estimate. Repealing the SCA would give contractors added flexibility that could allow them to reduce the costs of providing services.

Opponents of this option are concerned, however, that it would allow bidders to undermine existing collective bargaining agreements. In addition, repealing the SCA would reduce the compensation of workers in some firms that provide services to the government, which opponents argue could reduce the quality of those services.

920-05-A Repeal the Davis-Bacon Act

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	610	250
2003	610	655
2004	610	900
2005	610	1,015
2006	610	1,085
2002-2006	3,050	3,905
2002-2011	6,120	9,540
Relative to Inflated Appropriations		
2002	625	255
2003	640	675
2004	650	940
2005	665	1,080
2006	680	1,170
2002-2006	3,260	4,120
2002-2011	6,860	10,535

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

920-05-B

Since 1935, the Davis-Bacon Act has required that "prevailing wages" be paid on all federally funded or federally assisted construction projects with contracts of $2,000 or more. The Department of Labor measures prevailing wages in an area according to the specific wages and benefits earned by at least 50 percent of workers in a particular type of job or the average of the wages and benefits paid to workers in that type of job. Those procedures, as well as the classifications of workers who receive prevailing wages, favor union wage rates in some cases.

In 2001, approximately $67 billion in federal funds was authorized for construction projects covered by the Davis-Bacon Act. Fifty-two percent of that amount went to transportation projects, 12 percent to the Department of Housing and Urban Development and other community and regional development projects, and 12 percent to the Department of Defense. (Most of the spending authority for transportation projects is controlled by obligation limitations rather than by budget authority.)

The federal government could reduce outlays for construction by repealing the Davis-Bacon Act. Doing so would save $9.5 billion over the 2002-2011 period relative to current appropriations and $10.5 billion relative to current appropriations adjusted for inflation—provided that federal agencies' appropriations were lowered to reflect the anticipated reduction in costs. In addition, mandatory spending would fall by about $10 million in 2002 and $255 million over the 10-year period.

Repealing the Davis-Bacon Act would allow the federal government to spend less on construction, although the precise effect of repealing the law on contractors' costs is difficult to estimate. In addition, it would probably increase the opportunities for employment that federal projects would offer to less skilled workers.

Such a change would lower the earnings of some construction workers, however. In addition, opponents of this option argue that eliminating Davis-Bacon requirements could jeopardize the quality of federally funded or federally assisted construction projects. They contend that since firms are required to pay at least the locally prevailing wage, the people they hire are more likely to be able workers, resulting in fewer defects in the finished projects and more timely completion.

920-05-B Raise the Threshold for Coverage Under the Davis-Bacon Act

	Savings (Millions of dollars) Budget Authority	Outlays
Relative to Current Appropriations		
2002	105	35
2003	105	90
2004	105	125
2005	105	140
2006	105	150
2002-2006	525	540
2002-2011	1,050	1,290
Relative to Inflated Appropriations		
2002	105	35
2003	110	90
2004	110	130
2005	115	150
2006	115	160
2002-2006	555	565
2002-2011	1,240	1,425

SPENDING CATEGORY:

Discretionary

RELATED OPTION:

920-05-A

An alternative to repealing the Davis-Bacon Act (see option 920-05-A) would be to raise the threshold for determining which projects are covered by the law. In recent years, several bills have been introduced that would raise the threshold by various amounts. Increasing it from $2,000 to $1 million would save about $1.3 billion in discretionary outlays over the 2002-2011 period relative to current appropriations and $1.4 billion relative to current appropriations adjusted for inflation—provided that federal agencies' appropriations were lowered to reflect the anticipated reduction in costs. In addition, it would save $1 million in mandatory spending in 2002 and $19 million over the 10-year period. Although this option would save only about one-seventh of the amount that would be saved by repealing the Davis-Bacon Act, it would reduce firms' and the government's administrative burden by restricting coverage to the largest contracts.

As with repealing the Davis-Bacon Act, raising the threshold would allow the federal government to spend less on construction, although the precise effect of raising the threshold on contractors' costs is difficult to estimate. In addition, it would probably increase the opportunities for employment that federal projects would offer to less skilled workers.

Such a change would lower the earnings of some construction workers, however. In addition, opponents of this option argue that raising the threshold could jeopardize the quality of federally funded or federally assisted construction projects. They contend that since firms are required to pay at least the locally prevailing wage, the people they hire are more likely to be able workers, resulting in fewer defects in the finished projects and more timely completion.

920-06 Allow Federal Agencies to Bargain for Electricity

	Savings (Millions of dollars) Budget Authority	Outlays
2002	28	28
2003	93	93
2004	82	82
2005	63	63
2006	44	44
2002-2006	309	309
2002-2011	517	517

SPENDING CATEGORY:

Discretionary

RELATED OPTIONS:

050-45, 270-06, 270-07, and 270-11

RELATED CBO PUBLICATIONS:

Electric Utilities: Deregulation and Stranded Costs (Paper), October 1998.

Should the Federal Government Sell Electricity? (Study), November 1997.

The federal government spends more than $2 billion per year in the United States on electricity, of which about 50 percent is purchased through the Department of Defense. Although the government is a large consumer of electricity, it pays full retail prices. A provision in a continuing appropriation act for fiscal year 1988 (Public Law 100-202, section 8093) requires federal agencies to conform to state laws regarding electricity purchases. Some states have already allowed retail customers to choose their electricity supplier and negotiate lower prices.

This option would let the federal government realize such savings in all states, regardless of state regulations on retail customers. The resulting savings could total around $517 million over 10 years if agencies' appropriations were reduced by the expected decrease in electricity bills. (The lower savings in 2002 reflect transition costs.)

The federal government would face lower electricity prices if it purchased power on a competitive basis. In that situation, suppliers would have an incentive to provide electricity at the lowest possible cost and offer new services. Under traditional regulation, utilities generally gave customers the same product: reliable electricity at a fairly high, but uniform, price. If the federal government was allowed to negotiate for electricity, suppliers would be encouraged to furnish a greater variety of electricity services—with different prices and different degrees of reliability, depending on what the federal government needed. Some states, such as California, Massachusetts, Pennsylvania, and Rhode Island, have already introduced retail competition, allowing all retail customers—including federal agencies—to choose their electricity provider. Any reduction in federal spending because of Congressional action would have to take into account that those states already allow price competition and others will allow it before 2011.

Several bills to restructure the electricity industry were introduced in the 106th Congress. They would have allowed all customers, not just the federal government, to buy electricity in a competitive market. A comprehensive bill like one of those may be needed for the federal government to realize all of the savings from negotiating lower prices for electricity. Otherwise, an electricity provider that once served the federal government might be reluctant to lose so large a customer and could try to impede the government's choice of suppliers. (In some parts of the country, no alternative suppliers may be available.) Also, the federal government could be subject to surcharges if it broke a contract with its old supplier. Such surcharges would diminish the savings from this option. Finally, if the federal government was allowed to choose suppliers but no other retail customer was, that arrangement might be perceived as unfair: prices to other consumers could rise if the federal government chose a new supplier and the utility that once served it could not search for alternative buyers for the electricity.

920-07 Eliminate Cargo Preference

	Savings (Millions of dollars) Budget Authority	Outlays
2002	307	261
2003	377	352
2004	442	416
2005	432	422
2006	449	443
2002-2006	2,007	1,894
2002-2011	4,390	4,263

SPENDING CATEGORY:

Discretionary

The Cargo Preference Act of 1904 and other laws require that U.S.-flag vessels be used to carry certain government-owned or government-financed cargo that is shipped internationally. Eliminating that "cargo preference" would lower federal transportation costs by allowing the government to ship its cargo at the lowest available rates—saving $261 million in 2002 and a total of $4.3 billion over the next decade.

Two federal agencies—the Department of Defense (DoD) and the Department of Agriculture (USDA)—account for about 90 percent (by weight) of the government shipments subject to cargo preference laws. The preference applies to nearly all of DoD's freight and three-quarters of USDA's shipments of food aid, as well as shipments associated with programs of the Agency for International Development and the Export-Import Bank. Roughly 70 percent of the savings from eliminating cargo preference would come from defense discretionary spending, with the other 30 percent from nondefense discretionary spending.

Supporters of cargo preference argue that it promotes the economic viability of the nation's maritime industry. That industry has suffered at the hands of foreign competition in recent decades. Under federal law, U.S. mariners must crew U.S. vessels, and in general, U.S. shipyards must build them. Because U.S.-flag ships face higher labor costs and greater regulatory responsibilities than foreign-flag ships, they generally charge higher rates. Without guaranteed business from cargo preference, supporters contend, many U.S.-flag vessels engaged in international trade would leave the fleet. They would do so either by reflagging in a foreign country to save money or by decommissioning if they could not operate competitively. Supporters also argue that cargo preference helps bolster national security by ensuring that U.S.-flag vessels and U.S. crews are available during wartime. Finally, eliminating cargo preference could cause U.S. ship operators and shipbuilders to default on loans guaranteed by the government. (The possibility of such defaults is not reflected in the estimated savings from this option.)

Critics of cargo preference say it represents a subsidy of private industry by taxpayers, which simply helps a handful of carriers preserve their market share and market power. In 2000, the program cost about $700,000 per vessel for the 570 ships, barges, and tugboats benefiting from the program. Opponents also point out that even DoD officials question the national security importance of the Merchant Marine fleet. DoD has invested in a fleet of its own specifically for transporting military equipment. It also contracts with foreign-flag ships when needed. In addition, critics of cargo preference argue that the U.S. government is at a competitive disadvantage in selling surplus agricultural commodities abroad because it must pay higher costs to transport them.

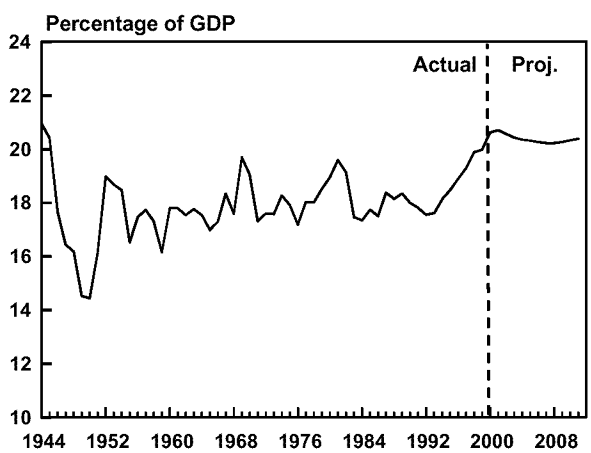
Part Three: Revenue Options

Chapter Six

Cutting Taxes

Federal tax revenues will claim a postwar record 20.7 percent of gross domestic product (GDP) in fiscal year 2001 (see Figure 7). The Congressional Budget Office (CBO) projects that revenues measured as a share of GDP will decline over the next few years to 20.2 percent, a level that is still higher than in any year before 2000 other than the last two years of World War II. In light of that situation, the Congress may want to use some of the projected surpluses to cut taxes. If so, it will face two issues: how much to reduce revenues and how to accomplish that reduction. Choosing among alternative approaches requires understanding the current structure of the federal tax system as well as the criteria that may prove useful in evaluating any tax change.

Figure 7.
Total Revenues as a Share of GDP
(By fiscal year)



SOURCE: Congressional Budget Office.

The Federal Tax System

The federal tax system will raise more than $2 trillion in fiscal year 2001 (see Table 6). Over 90 percent of that revenue will come from income and social insurance taxes. The individual income tax is the largest source, accounting for just over half of the total. Social insurance taxes, levied primarily to support Social Security and Medicare, make up nearly a third. The remainder splits roughly evenly between the corporate income tax and a variety of smaller revenue sources including excise taxes, the estate and gift tax, customs duties, and miscellaneous levies.

The Individual Income Tax

Americans are most familiar with the individual income tax and its recurring April 15 deadline. Although the tax has many complexities, its basic structure is straightforward: add up income from various sources; subtract exclusions, standard or itemized deductions, and personal exemptions to determine taxable income; apply graduated tax rates to assess basic tax liability; and subtract various credits to calculate final liability. The tax falls most heavily on people at the top of the income distribution: those in the highest quintile—the fifth of households with the highest income—pay over three-fourths of the total revenue from the individual income tax (see Table 7 on page 378). By contrast, households in the bottom three-fifths of the income distribution pay just 7 percent of the tax, and because of the earned income tax credit (EITC), the lowest quintile as a group actually receives a net payment.

That distribution reflects three developments in the 1990s. First, tax acts in 1990 and 1993 added three new tax brackets to the 15 percent and 28 percent brackets set in the Tax Reform Act of 1986 (TRA-86). The new brackets—with rates of 31 percent, 36 percent, and 39.6 percent—sharply increased the taxes paid by high-income households. Second, the income of households facing the higher rates rose much more rapidly over the decade than did overall income, making a markedly larger share of total income subject to the higher rates. Third, the EITC was greatly expanded in the early 1990s. Those changes combined to boost the share of individual income tax liability in the top quintile from 70 percent in 1991 to 78 percent just six years later. Despite the tax reduction from expanding the EITC, the changes were also an important cause of growth in income tax revenues, which will rise from 7.7 percent of GDP in 1992 to a projected 10.4 percent in 2001 (see Figure 8 on page 379).

The rate structure of the individual income tax makes it the most progressive of the major sources of revenue; that is, the tax measured as a share of income—the effective tax rate—rises most sharply as income increases (see Box 4). In 1997, households in the lowest income quintile faced a negative effective tax rate, -4.5 percent, compared with 5.7 percent for the middle quintile and 16.1 percent for the highest quintile.

Table 6.
CBO's Projections of Revenues (By fiscal year)

Source	Actual 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
						In Billions of Dollars						
Individual Income Taxes	1,004	1,076	1,125	1,176	1,230	1,289	1,354	1,424	1,500	1,583	1,675	1,774
Corporate Income Taxes	207	215	217	226	236	246	255	264	276	289	303	319
Social Insurance Taxes	653	686	725	762	797	840	879	921	963	1,010	1,059	1,110
Excise Taxes	69	71	74	76	78	81	83	86	88	91	94	97
Estate and Gift Taxes	29	30	32	34	35	36	37	39	43	46	48	52
Customs Duties	20	21	23	24	25	26	27	27	28	29	30	31
Miscellaneous	43	36	41	44	51	52	54	55	57	59	61	63
Total	2,025	2,135	2,236	2,343	2,453	2,570	2,689	2,816	2,955	3,107	3,271	3,447
On-budget	1,545	1,630	1,703	1,782	1,864	1,950	2,040	2,136	2,243	2,360	2,489	2,628
Off-budget[a]	481	504	532	561	589	620	649	680	712	746	782	819
						As a Percentage of GDP						
Individual Income Taxes	10.2	10.4	10.3	10.2	10.2	10.2	10.2	10.2	10.3	10.3	10.4	10.5
Corporate Income Taxes	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Social Insurance Taxes	6.6	6.6	6.7	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Excise Taxes	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Estate and Gift Taxes	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Customs Duties	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Miscellaneous	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total	20.6	20.7	20.5	20.4	20.3	20.3	20.2	20.2	20.2	20.3	20.3	20.4
On-budget	15.7	15.8	15.7	15.5	15.5	15.4	15.4	15.3	15.3	15.4	15.5	15.5
Off-budget[a]	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.8

SOURCE: Congressional Budget Office.

a. Social Security.

Box 4.
Tax Brackets, Marginal Tax Rates, and Average Tax Rates

Calculating a person's tax liability, or tax bill, involves measuring total income, excluding particular kinds of income to obtain adjusted gross income (AGI), subtracting personal and dependent exemptions and various deductions to determine taxable income, applying a set of five tax rates to different ranges of income, and deducting any applicable credits. In addition, calculations must take account of income ranges over which certain tax provisions phase in or out, granting some or none of various deductions, exemptions, or credits. These complexities result in a number of different measures for determining how much a person or a couple owes in taxes. In particular, economists distinguish among statutory marginal—or bracket—rates, effective marginal rates, and effective, or average, rates.

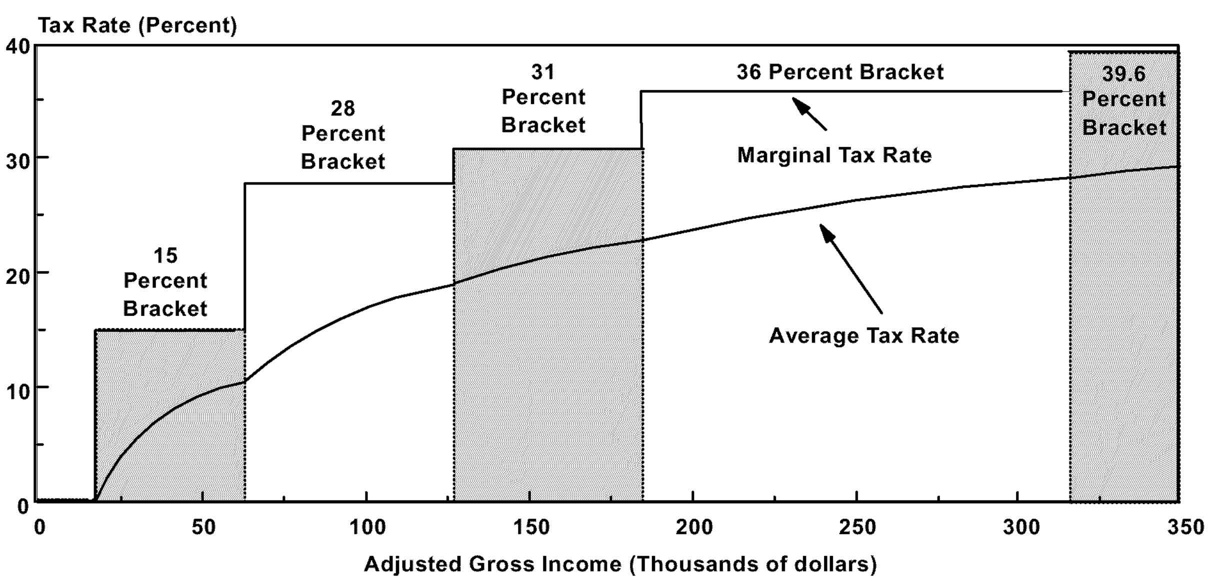
Taxpayers are most familiar with the schedule of five tax rate brackets found in the returns they file each year. For any taxpayer, the portion of taxable income falling within a given bracket faces the tax rate for that bracket, regardless of the level of the taxpayer's total income. For example, in 2001, the first $45,200 of a married couple's taxable income is subject to a rate of 15 percent (see the figure below). The tax rate rises to 28 percent on the next $64,050, to 31 percent on the next $57,200, and to 36 percent on the next $160,550. All income in excess of $297,300 is taxed at 39.6 percent. Economists call the rate that applies to the last dollar of a taxpayer's income the *statutory marginal rate.*

For many taxpayers, the phasing in or out of particular tax provisions causes their *effective marginal tax rate* to differ from their bracket rate. The earned income tax credit, for example, phases out at a rate of 21.06 cents for each dollar of AGI between $13,090 and $32,121 for a taxpayer with two children, raising the taxpayer's effective marginal tax rate by 21.06 percentage points above the statutory marginal rate of either zero or 15 percent, depending on taxable income. Because the effective marginal rate measures the actual tax on an additional dollar of income, it may affect how taxpayers behave and is of greatest interest to economists.

By contrast, the *effective (or average) tax rate* equals the amount of tax an individual pays divided by AGI. For example, if a taxpayer with AGI of $20,000 pays $3,000 in federal income tax, his or her average tax rate is 15 percent ($3,000 divided by $20,000). Because AGI differs from taxable income by the applicable exemptions and deductions, the average tax rate is only loosely related to statutory rates. Furthermore, because statutory rates rise with income across the five brackets, the average tax rate is never higher than the marginal rate and always lower for taxpayers above the lowest tax bracket (see the figure).

Analysts sometimes use a measure of income broader than AGI to gauge effective tax rates. Because AGI excludes some types of income, such as the untaxed portion of Social Security benefits and interest on tax-exempt bonds, a more inclusive calculation can provide a better measure of tax liabilities relative to income.

Average and Marginal Tax Rates for Married Couples with Two Children Who File Jointly and Claim the Standard Deduction, 2001



SOURCE: Congressional Budget Office.

NOTE: The marginal and average tax rates shown are for the five statutory tax brackets. They do not include the effects of phasing in or phasing out various provisions of the tax code, special tax rates on capital gains, or the alternative minimum tax, nor do they include tax credits.

Social Insurance Taxes

Social insurance taxes claim just under 7 percent of GDP each year, primarily in support of Social Security and Medicare. The taxes, which are often referred to as payroll taxes, principally comprise several separate levies. The tax that finances Social Security equals 6.2 percent of wage, salary, and self-employment income up to a taxable maximum ($80,400 in 2001) paid by both employer and employee. Thus, the total Social Security tax is 12.4 percent of earnings up to the maximum. The Medicare tax has no cap and equals 1.45 percent of earnings, again paid by both employer and employee to yield a total tax of 2.9 percent. Economists generally agree that the entire payroll tax is actually paid by workers because their wages are lower by the employer's share of the tax. Smaller taxes finance unemployment benefits and retirement benefits for railroad and government workers.

From 1960 to 1990, payroll taxes climbed sharply as a share of GDP, rising from 3 percent to nearly 7 percent. That rise came in part from an increase in the tax rate (from 3 percent to the current 7.65 percent) faced by both employers and employees

Table 7.
Effective Tax Rates and Shares of Tax Liability, by Income Quintile and Source of Revenue, 1997

Source of Revenue	Pretax Household Income Quintile: Lowest	Second	Middle	Fourth	Highest	All Households
Effective Tax Rate (As a percentage of pretax income)						
Individual Income Taxes	-4.5	2.2	5.7	8.2	16.1	11.0
Corporate Income Taxes	0.4	0.9	1.2	1.4	4.4	2.9
Social Insurance Taxes	6.4	8.7	9.7	10.3	6.7	8.1
Excise Taxes	2.6	1.6	1.1	0.9	0.5	0.9
Total	4.9	13.4	17.7	20.8	27.9	22.8
Share of Tax Liability (In percent)						
Individual Income Taxes	-2	2	7	15	78	100
Corporate Income Taxes	1	3	6	9	82	100
Social Insurance Taxes	3	10	17	26	44	100
Excise Taxes	13	17	18	20	32	100
Total	1	5	11	18	65	100
Pretax Household Income						
Average (Dollars)	12,700	28,400	44,800	64,800	164,000	62,400
Share (Percent)	4	9	14	20	53	100

SOURCE: Congressional Budget Office.

NOTES: Pretax household income is the sum of wages, salaries, self-employment income, rents, taxable and nontaxable interest, dividends, realized capital gains, cash transfer payments, and in-kind benefits. It also includes the corporate income tax and the employer's share of Social Security and federal unemployment insurance payroll taxes. For purposes of ranking by adjusted household income, income for each household is divided by the square root of household size. Quintiles contain equal numbers of people. Households with zero or negative income are excluded from the lowest income category but are included in the total.

Individual income taxes are distributed directly to households paying those taxes. Corporate income taxes are distributed to households according to their share of capital income. Social insurance payroll taxes are distributed to households paying those taxes directly or indirectly, through their employers. Federal excise taxes are distributed to households according to their consumption of the taxed goods and services.

and in part from 10-fold growth (from $4,800 to $51,300) in the maximum amount of earnings subject to tax. The GDP share of payroll taxes is roughly 7 percent today and will remain at about that level under current law. For most families, the payroll tax now exceeds their income tax. Nearly three-fourths of families who pay either tax face a combined employer/employee payroll tax that is greater than their income tax liability.

The cap on earnings subject to the Social Security tax and the fact that income other than earnings is not taxed combine to impose somewhat higher payroll taxes, measured as a percentage of income, on middle-income households than on those at the top or bottom of the income distribution. In 1997, households in the lowest income quintile incurred payroll taxes equal, on average, to 6.4 percent of their income, compared with 9.7 percent for households in the middle quintile and 6.7 percent for those in the top quintile. At the same time, Social Security benefits replace a larger share of preretirement income for people with low lifetime earnings than for people with higher earnings. Analyses have reached differing conclusions on the overall progressivity of the program when both taxes and benefits are considered.

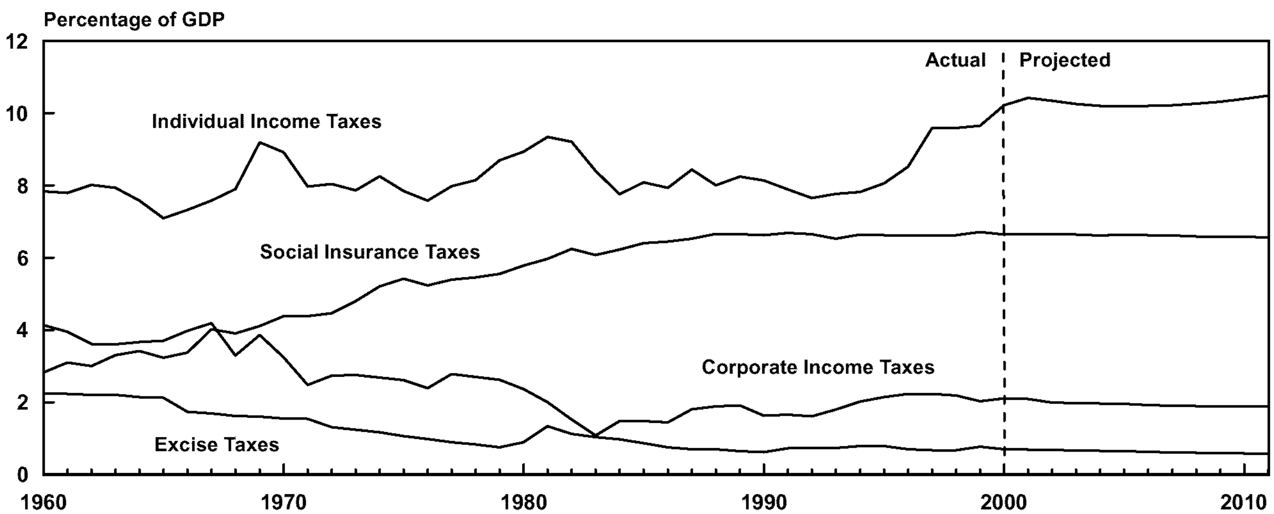
Other Federal Taxes

One-sixth of federal tax revenues come from various other sources, the largest of which yields only about one-tenth of the total.

The Corporate Income Tax. After falling from 3.6 percent of GDP in 1962 to just over 1 percent in the early 1980s, the corporate income tax has rebounded somewhat to claim roughly 2 percent of GDP this year. The recent rise resulted primarily from the Taxpayer Relief Act of 1986 and from generally higher corporate profits in the 1990s. CBO projects that that percentage will decline slightly over the next decade. The tax currently provides just over one-tenth of total federal revenues, but that share is expected to fall over time. Although the tax has four rates, the first two (15 percent and 25 percent) apply only to corporate income below $75,000; the higher two (34 percent and 35 percent) differ only slightly. At least 80 percent of corporate income is taxed at the highest rate.

Regardless of how they are levied, taxes are paid by individuals, not by corporations. Various theories have been advanced to explain how the bur-

Figure 8.
Revenues, by Source, as a Share of GDP (By fiscal year)



SOURCE: Congressional Budget Office.

den of the corporate income tax might be borne by workers, owners of corporate capital, or owners of capital generally. Most economists now agree that all or nearly all of the tax falls on the owners of capital, both corporate and noncorporate. Since the nation's capital stock is owned primarily by people at the upper end of the income distribution, the tax falls most heavily on the wealthy and is therefore progressive. In 1997, households in the top income quintile effectively paid corporate income taxes equal to about 4.4 percent of their income, compared with 1.2 percent for households in the middle quintile and 0.4 percent for those in the lowest quintile.

Excise Taxes. Excise taxes, which are levied on such goods and services as gasoline, alcohol, tobacco, and telephone use, represent a small and declining share of total federal revenues. Most of those taxes are levied on the quantity rather than the value of goods, and rates have generally not kept pace with inflation. In the early 1960s, excise taxes were just over 2 percent of GDP; this year, they will be only about one-third as large, or 0.7 percent.

Because consumption claims a smaller share of income as income rises, effective excise tax rates are higher for households at the lower end of the income distribution than for those at the top. Households in the lowest income quintile faced an average effective rate of 2.6 percent in 1997, compared with 0.5 percent for households in the top quintile.

The Estate and Gift Tax. The estate and gift tax combines the taxation of assets given away during a person's life and bequests made at death. The tax applies only to large estates and gifts. Under current law, estates valued at less than $675,000 are exempt from taxation, but those valued at more than $675,000 are taxed at rates ranging from 37 percent to 55 percent.[1] Annual gifts in excess of $10,000 per recipient are subject to similar levies. The $675,000 exclusion, which applies to the lifetime sum of taxable gifts and bequests, is scheduled to increase incrementally to $1 million by 2006 and remain at that level. By contrast, the $10,000 annual limit on gifts will increase to keep pace with inflation since 1997, but only in $1,000 increments.

Revenues from the estate and gift tax have grown rapidly over the past decade, nearly tripling from $11 billion in 1991 to a projected $30 billion in 2001. Even so, the tax is relatively small. CBO projects that revenues from that tax will claim only 0.3 percent of GDP over the next decade. Furthermore, the tax affects few taxpayers: less than 2 percent of estates (just over 100,000 in 1998) incur any tax liability. Gift tax returns, which may be filed annually and may or may not involve tax liability, are more numerous (about 260,000 in 1998), but they represent less than 0.5 percent of all taxpayers.[2]

Assessing the distributional impact of the estate and gift tax is difficult. Measured with respect to the well-being of decedents and gift-givers, the tax is clearly highly progressive; only the largest estates and gifts pay any tax. Some economists argue, however, that it is more appropriate to assign the burden of the tax to beneficiaries. Unfortunately, research yields incomplete and conflicting findings about the distributional impact of the tax from that perspective.

Finally, recently voiced concerns about the effects of estate taxes on the viability of small businesses and family farms may be disproportionate to the size of the problem. As discussed further below, relatively few such enterprises have any estate tax liability. (In 1995, they accounted for less than 4 percent of total estate tax revenues.)

Customs Duties and Miscellaneous Receipts. The final pieces of federal collections are customs duties and miscellaneous receipts. Customs duties grow over time in tandem with imports and claim about 0.2 percent of GDP. Tariff reductions enacted in 1994 are not yet phased in fully and will constrain any growth in revenues from that source.

1. Rates actually range from 18 percent to 60 percent. However, rates below 37 percent apply only to that part of an estate below the $675,000 exemption and are therefore irrelevant. The 60 percent rate applies to that part of an estate valued between $10 million and about $17 million in order to phase out the benefits of the graduated estate tax brackets.

2. The Taxpayer Relief Act of 1997 gave taxpayers an incentive to file gift tax returns, even if gifts were below the $10,000 limit. Under the act, the Internal Revenue Service (IRS) may not question the information on those returns after three years. If no return is filed, the IRS may audit gifts when an estate tax return is filed upon the taxpayer's death.

The largest component of miscellaneous receipts is the profits of the Federal Reserve System, which are turned over to the Treasury and counted as revenues. The other major source of receipts is the Universal Service Fund, collected from telecommunications users to finance Internet service for libraries and schools and to subsidize basic telephone service for high-cost areas and low-income households. Those two and other, smaller components of receipts equal about 0.4 percent of GDP, a level that is projected to remain fairly constant over the next decade.

Criteria for Assessing Tax Changes

Any examination of potential tax changes requires a set of criteria by which to evaluate the effects on individuals and the economy as a whole. Economists focus their evaluation of taxes on three characteristics:

- Efficiency—the impact of the tax on economic activity and growth,
- The fairness of the tax with respect to who bears its burden, and
- The costs of complying with and collecting the tax.

Those three criteria are often in conflict, however, and the Congress faces inevitable trade-offs in its decisions on tax policy.

Efficiency

Taxes change behavior. Consumers buy less of taxed goods and more of untaxed goods. People decide whether and how much to work on the basis of their after-tax wages and thus may choose to work less when income taxes are higher. Firms pick production methods on the basis of input costs after taxes—using less machinery, for example, in the face of higher taxes on capital. And individuals make decisions about saving on the basis of after-tax returns. All of those responses distort the economy from the way it would be in the absence of taxes and could lead to slower economic growth and thus a lower level of national well-being. Typical estimates of the economic cost of a dollar of tax revenue range from 20 cents to 60 cents over and above the revenue raised.[3]

Those negative effects do not mean, however, that taxes have only negative effects. Some taxes may induce behavior consistent with other policy goals; cigarette taxes lead to a reduction in smoking and its associated costs, and emission taxes cause firms to shift to production methods that pollute less. Furthermore, the government needs revenues to carry out its various functions. Nevertheless, economists agree that taxes should distort behavior as little as possible, consistent with other objectives. In general, that means not levying taxes that affect some activities more than others. Economists generally refer to minimizing distortions as maximizing efficiency.

Fairness

Unfortunately, maximizing efficiency can mean imposing taxes that many people feel are unfair. The most efficient tax from an economist's viewpoint is a head tax—a specific levy on every individual, regardless of his or her well-being. Because liability under such a tax does not depend at all on behavior, the only distortion comes from the revenue collection itself. However, few people would argue that the U.S. government should pay its bills by charging every citizen $7,000 (the total of gross government expenditures divided by the total number of citizens). Most would view such a head tax as inherently unfair. Rather than focusing only on maximizing efficiency, the country faces trade-offs between doing what is best for the economy and what is fair.

Economists have developed various ways of assessing fairness. *Horizontal equity* occurs when people in equivalent economic positions have the

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3. See Charles L. Ballard and Don Fullerton, "Distortionary Taxes and the Provision of Public Goods," *Journal of Economic Perspectives*, vol. 6, no. 3 (Summer 1992), pp. 117-131.

   Furthermore, the efficiency costs rise disproportionately with higher tax rates, so reducing rates could generate substantial gains. (Efficiency losses rise roughly with the square of the tax rate.) See Harvey Rosen, *Public Finance*, 5th ed. (Homewood, Ill.: Richard D. Irwin, 1999).

same tax liability; that is, equals are treated equally. The major difficulty in interpreting that metric comes in defining "equals." Much of the complexity of the individual income tax derives from the various adjustments to income, such as personal exemptions and itemized deductions, that are intended to yield a measure of taxable income defining "equals." Any such measure, however, is open to interpretation and debate.

Vertical equity occurs when tax liabilities rise with ability to pay, often interpreted as having more income. Progressivity measures that characteristic. A tax is *progressive* when it claims a greater percentage of income as income increases—higher-income families pay a larger share of their income in taxes than do those with lower income. The reverse situation is labeled *regressive*; the tax is a larger share of income for those at the bottom of the income distribution than for those at the top. A tax that claims the same percentage of income from all taxpayers is termed *proportional*.

Vertical equity can be assessed in terms of either effective tax rates (tax liability as a percentage of pretax income) or the effect of the tax on the distribution of after-tax income. The two approaches are quite different but yield comparable assessments of a given tax. A progressive tax, for example, has effective tax rates that rise with income; it also generates a more equal after-tax distribution of income. But that consistency fails to hold when evaluating a change in taxes. For example, a tax reduction that cuts all rates of a progressive tax by the same percentage has no effect on relative effective rates; relative shares of the total tax bill are unchanged. However, the change raises after-tax income much more for families at the top of the income distribution than for those at the bottom, thus increasing inequality. The choice of metric matters.

Considering the distribution of taxes in isolation from the benefits they fund may provide an inaccurate measure of fairness. A system of regressive taxes used to pay for benefits going principally to people at the bottom of the income distribution could be highly progressive in total. Economists do not agree on the distribution of the benefits of government spending, however, and thus have not reached consensus on the progressivity of all activities of the federal government.

Complexity and Costs

The costs of collecting taxes are net losses to the economy. Taxes that cost less to collect raise more net revenue relative to resources taken from the economy than do more expensive alternatives. The collection costs include both the costs the government incurs in administering and enforcing the tax code and the costs the public incurs in complying with it. Administrative costs are frequently associated with the ease of evasion. Compliance costs are usually associated with complexity.

Complexity in the tax system largely results from features of the tax code that are designed to affect behavior by taxing some endeavors more or less than others. Those features include activities that are exempt from tax, from various deductions for preferred items, and from credits for undertaking certain actions. As a consequence, many of the same aspects of the system that reduce economic efficiency also increase complexity.

In a number of instances, complexity also arises from efforts to achieve vertical equity. For example, the phaseouts of various tax credits and deductions throughout the code are designed to give benefits only to people with the greatest need, but they make taxes more difficult to calculate. Similarly, the earned income tax credit provides wage subsidies to low-income families but requires them to fill out an additional form. And the alternative minimum tax is intended to limit the use of incentives by higher-income taxpayers but requires taxpayers to recalculate their tax liability in an entirely different way and then pay the larger of the regular and alternative taxes.

In some cases, complexity results from trying to make the code efficient. That occurs most frequently in the case of business taxation, in which considerable complexity stems from the need to define income consistently so that it may be taxed with a minimum of distortion.

Minimizing complexity, therefore, in some instances involves a trade-off with vertical equity and efficiency. In other instances, probably most, it is consistent with horizontal equity and greater efficiency. All else being equal, taxes that are simpler and easy to enforce are preferred in order to minimize the costs of collection.

Ways to Reduce Revenues

Given the current near-record levels of federal revenues as a share of GDP, the Congress may want to use some of the projected surpluses to cut taxes. In doing so, it faces two issues: the size of the reduction and its nature. The Congress can choose from a range of approaches, including:

- Broad-based tax cuts that affect most taxpayers;
- Tax cuts aimed at reducing particular disincentives in the current tax system;
- Tax cuts designed to simplify the tax system or improve compliance; and
- Tax cuts that provide new incentives for particular types of behavior.

Options based on each approach may have different effects on the complexity of the tax code, incentives or disincentives for particular behavior, and the distribution of after-tax income among families and individuals.

Estimates of the amount of revenue that would be lost under each of the options discussed in this chapter should be viewed as approximate. Unlike the revenue estimates provided by the Joint Committee on Taxation for the options in Chapter 7, the estimates for options in this chapter come from CBO.

Making Broad-Based Tax Cuts

Two federal taxes—the individual income tax and the payroll taxes funding Social Security and Medicare—affect most families. Consequently, cutting either or both of those taxes is the easiest way to provide substantial across-the-board tax relief.

The Individual Income Tax. Rapidly rising incomes over the past decade have caused individual income tax revenues to climb more sharply than GDP, reaching 10.2 percent of GDP in 2000, the highest level ever. Although much of the increase in revenues has come from the concentration of income gains in the top income brackets that face the highest tax rates, many observers argue that the increase calls for some form of across-the-board cut in individual income taxes. Such a cut would lower top tax rates toward the levels of the early 1990s and could have positive effects on both incentives to work and the national saving rate.

Most evidence suggests that income taxes modestly reduce incentives to work because they reduce after-tax wages. The negative effects are particularly strong for workers who are not their family's principal earner. Lowering income tax rates would decrease those disincentives and result in an expansion of the national labor supply. Evidence with respect to the effect of income taxes on saving is weaker, but many analysts have concluded that those taxes also reduce the incentive to save. Hence, cutting tax rates would also reduce some existing disincentives to save and could lead to an increase in the national saving rate.

More important, because it taxes some income-producing activities and not others, the income tax code distorts choices about production, consumption, and portfolio allocation. Those distortions result in economic inefficiency—too much activity in areas subject to lower or no taxes and too little activity in areas subject to higher taxes. Lowering tax rates reduces those differentials and consequently improves efficiency. Since some of those distortions were deliberately enacted to encourage particular activities such as home ownership and charitable giving, however, lowering tax rates can lead to less of what has been legislatively deemed to be desirable behavior.

Across-the-board rate cuts may be implemented in various ways that have differing consequences for the distribution of income. The two most commonly suggested methods are cutting all rates by a given percentage or by a given number of percentage

points. Either form of rate cut could accomplish any level of desired revenue reduction, determined by how much rates are lowered. CBO expects nearly $1.1 trillion in individual income tax revenue in 2001, so a 10 percent tax cut would reduce tax liabilities in that year by about $110 billion. Cutting all individual rates by 2.2 percentage points would yield about the same revenue loss. Regardless of how rates were reduced, however, taxpayers would not realize the full benefits unless the alternative minimum tax (AMT) was also adjusted to preclude the lower tax rates from making more returns subject to the AMT.

A proportional cut—say, 10 percent in all tax rates, including capital gains and the AMT—would not affect progressivity as measured by income tax rates. However, because the individual income tax is the most progressive part of the federal tax system, reducing income taxes while leaving other taxes unchanged makes overall federal taxes less progressive. Furthermore, because the effective tax rate facing high-income taxpayers would be reduced more by a proportional reduction, such a cut would make the distribution of after-tax income more unequal and would thus reduce progressivity under that measure.

A rate cut that reduced all tax brackets by the same number of percentage points would actually increase the progressivity of tax rates by making proportionately larger cuts in the lower rates. However, since low- and middle-income families pay proportionately more in other taxes, an income tax cut would reduce their total taxes by a smaller percentage than it would the taxes of higher-income families.

Payroll Taxes. Most families pay more in payroll taxes—deductions from paychecks to fund Social Security and Medicare—than in income taxes. Cutting taxes that finance Social Security (the Old-Age, Survivors, and Disability Insurance program, or OASDI) and Medicare's Hospital Insurance program could thus have a greater impact on most families than would cutting income taxes by the same total amount. Cuts in payroll taxes would have the same kind of effects on work incentives as cuts in the individual income tax. However, the incentives of workers with earnings above the taxable maximum would not be affected by a reduction in OASDI tax rates. Furthermore, because payroll taxes do not apply to investment income, cutting them would have less of an effect on incentives to save than cutting income taxes would. Finally, because payroll taxes are a larger share of total taxes for low- and middle-income families than for those with higher income, cutting payroll tax rates would increase the overall progressivity of the tax system.

An immediate 10 percent reduction in the tax rates for Social Security and Medicare would reduce revenues by about $70 billion in fiscal year 2002. The reduction could be scaled to produce a greater or smaller level of tax reduction. For a fixed amount of revenue reduction, cutting the Social Security tax rate would focus more tax relief on low- and middle-income families than would changing the Medicare tax rate because of the limit on earnings subject to the Social Security levy.

Some observers have expressed concern that cutting payroll taxes would adversely affect the Social Security and Medicare trust funds. The impending retirement of the baby-boom generation will deplete those funds rapidly, even at current tax rates; reducing the rates would only exacerbate the situation. Focusing on trust fund balances, however, can be misleading. The funds by themselves will not provide the resources for future benefits. The nation's ability to meet long-term obligations ultimately depends on the level of benefits and the size of the economy (see Box 2 in Chapter 1).

Reducing Particular Disincentives of the Tax System

Rather than provide broad-based tax relief, the Congress might choose to focus tax cuts on particular groups of taxpayers. Marriage penalties and estate taxes are two aspects of the current tax system that observers have frequently identified as in need of change. The double taxation of corporate income has also drawn the criticism of many tax experts.

Marriage Penalty. Many married couples who file a joint return have higher tax liabilities than they would if they were allowed to file as individuals or heads of household (single taxpayers with dependents). At the same time, many other married couples pay lower taxes than they would if they filed as individuals. Whether a couple incurs a marriage "penalty" or receives a marriage "bonus" depends on the

spouses' relative incomes: penalties generally occur when spouses have similar incomes, and bonuses occur when only one spouse works or when spouses have substantially different earnings. Couples with children incur larger penalties than do childless couples (because if they were not married, couples with children would file as heads of household and pay even lower taxes).

Just over 40 percent of married couples incurred marriage penalties in 1999, averaging $1,480, and about 50 percent received bonuses, averaging $1,600. Overall, bonuses totaled $43 billion, about $10 billion more than total penalties. High-income couples were more likely to incur penalties and less likely to receive bonuses than those with lower income. About 70 percent of both penalties and bonuses affected couples with income above $50,000.

Any tax system that treats married couples as single taxpaying units subject to progressive tax rates will have marriage penalties, bonuses, or both. One way to reduce the penalties would be to allow couples to choose to file either jointly or individually. That option would erase all penalties other than those associated with the head-of-household filing status and would not affect couples with bonuses. However, couples with the same amounts of income would no longer face the same tax liabilities.

Beyond allowing married taxpayers to choose their filing status, penalties can be reduced by lowering the taxes of penalized couples, increasing the taxes of other taxpayers, or both. Some options would increase tax revenues. For example, requiring all married couples to file individual tax returns would eliminate all marriage penalties but only at the cost of increasing the tax liabilities of couples now receiving bonuses. Alternatively, tax brackets and standard deductions could be made less generous for individuals and heads of household, thus raising their taxes. That change would reduce penalties for some married couples and increase bonuses for others.

Other options would reduce both tax revenues and marriage penalties. The options differ in how much of the tax relief would go to couples incurring penalties and where in the income distribution the tax relief would occur. For example, setting the standard deduction for married couples equal to twice that for single filers would reduce penalties by about 6 percent at an annual cost of roughly $6 billion. That approach would favor low- and middle-income couples: penalized couples with annual income below $50,000, who incur just over one-third of total penalties, would get two-thirds of the tax savings. But half of the tax reduction would go to couples not now incurring penalties. Alternatively, setting both the standard deduction and tax bracket widths for joint filers to twice those for individual filers would offset roughly 40 percent of total penalties at an annual cost of about $40 billion. But it would focus that reduction on higher-income couples: more than 90 percent of the cut in penalties would go to those with income above $50,000.

Another option would restore the two-earner deduction that existed between 1982 and 1986. That provision allowed two-earner couples to deduct from taxable income 10 percent of the earnings of the lower-earning spouse, up to a maximum of $3,000. That approach would reduce current marriage penalties by more than one-fourth at an annual cost of about $12 billion. Roughly 80 percent of the revenue loss would go to reducing current penalties. Most of the benefits would go to higher-income families: couples with income over $50,000—those most likely to have two earners—would get more than four-fifths of the tax reduction. Like other ways of reducing marriage penalties, that option would also widen the disparity of treatment between married and unmarried couples.

A related issue involves marriage penalties associated with the earned income tax credit. Since many low-income families pay no income tax, most of their marriage penalty results from the loss of the EITC because the percentages and income levels determining the credit do not differ by marital status. As a result, two single parents could lose as much as $6,765 of the EITC if they married. Setting the credit parameters for couples to twice those for individuals would eliminate that penalty, but it would also give the EITC to couples who would not qualify at all if they had to file as individuals. The penalty could be reduced somewhat at significantly lower cost by phasing the credit out more slowly for couples than for individuals, but that approach would leave many couples facing substantial penalties. Regardless of the approach taken, any option to reduce marriage penalties that does not address the EITC would leave in place much of the penalty for low-income families.

The Estate and Gift Tax. The only federal tax on wealth is the estate and gift tax, which imposes levies on large estates and gifts. Proponents of the tax assert that it provides limited redistribution of wealth and gives people an incentive to donate to charities. It also serves as a backstop to other levies, taxing income that would otherwise go untaxed. Critics complain that the tax leads to the breakup of family farms and businesses, discourages saving, and induces costly efforts to avoid paying the tax.

The tax may create problems for family-owned farms and businesses, primarily because estates dominated by family enterprises may lack the liquid assets needed to pay the tax. However, many small businesses are able to undertake tax planning, such as purchasing life insurance to cover any estate tax liability, to mitigate the effects of the tax. Even so, the levy could force the sale of part or all of the enterprise and thus might jeopardize its viability. The tax code allows estates to reduce that effect by spreading payments over time. Despite anecdotal evidence about the adverse effects of the estate tax on family businesses, however, no research has revealed whether the tax actually contributes to the breakup of such enterprises. In 1995, about 2,000 small businesses and farms, roughly defined, incurred any estate tax liability; those enterprises paid less than 4 percent of all estate tax revenues.

Some critics have argued that because the estate tax reduces the size of bequests that can be passed on to heirs, it reduces the incentive to save. The likelihood of such an effect depends on the reasons people have for leaving bequests. On the one hand, if people base decisions on the trade-off between their own consumption and their heirs' consumption, the tax shifts the balance toward their own consumption and they will tend to save less. On the other hand, if people want to leave particular levels of inheritance, the tax forces them to save more to reach their goal. Empirical studies have reached no consensus on the net effect.

Although the estate and gift tax accounts for less than 2 percent of federal revenues, its effect on the distribution of federal taxes among income groups is substantial. Measured in terms of the giver, the estate tax falls primarily on high-income families because it effectively exempts all but the largest estates. As a consequence, eliminating the tax would substantially reduce the progressivity of the federal tax system. The distributional consequences of the tax are less clear if the burden of the tax is assumed to fall on beneficiaries.

The estate and gift tax may influence more than personal saving. Because the tax does not apply to charitable contributions, it may encourage donations to charitable activities. Significantly lowering the tax could reduce such gifts. The estate tax also interacts with the taxation of capital gains. Under current law, gains incur tax liability only when realized; accrued gains held until death escape the income tax because heirs receive assets with their basis set to the current value (that is, "stepped up" from the decedent's basis to the value at his or her death). Because of that step-up in basis, accrued gains would avoid taxation entirely if the estate tax was removed. Many proposals for modifying the estate tax would therefore either tax any accrued gains at death or require that beneficiaries assume the decedent's basis.

A major criticism of the estate tax is that it leads the owners of significant assets to pursue complicated strategies in their attempt to mitigate or avoid the tax liability. Such activity not only involves potentially great expense but may also result in inefficient use of assets and inequitable treatment of taxpayers, only some of whom undertake actions to lower their taxes. Furthermore, the tax's complexity imposes large compliance costs; conservative estimates place those costs at between 5 percent and 10 percent of revenue collected. Eliminating the tax, or even substantially increasing its exemption level, would mitigate both effects.

Although estate and gift tax receipts are projected to total about $30 billion in 2001, eliminating the tax could have a larger or smaller effect on federal revenues, depending on changes made to other parts of the tax code. For example, if the step-up in basis for capital assets was also removed, the lost revenue from the estate tax could be offset in part by increased income taxes on capital gains if taxpayers deferred fewer of their gains until death. Similarly, because the estate tax can significantly lower the after-tax cost of spending during one's lifetime, removing the tax could lead to lower levels of deductible expenditures like charitable contributions and consequent increases in income tax revenues.

Other options would reduce the impact of the tax. Under current law, the exempt value of an estate will rise incrementally to $1 million in 2006 and remain at that level in future years. Indexing that exemption would keep inflation from raising the percentage of families subject to the tax, and increasing the exempt amount further could lower that percentage. Alternatively, lowering estate tax rates would reduce incentives for taxpayers to avoid the tax through complicated actions. Any of those changes would affect only the 2 percent of decedents who owe estate taxes, and a rate change would give more of the benefit of the cut to the wealthiest families within that group.

Double Taxation of Corporate Income. Many economists are concerned that the corporate tax creates distortions that cause economic inefficiency. Firms pay taxes on their profits, and investors pay additional taxes when they receive dividends or realize capital gains. The tax thus raises the cost of capital, discourages investment, and may reduce saving. More significantly, it creates various distortions: between noncorporate and corporate businesses; between payment of dividends and internal reinvestment of earnings; and between financing with debt (the interest on which is deductible) and with stock issuance (the dividends from which are not deductible). All such distortions change how corporations operate— in terms of production methods and investment decisions, for example—and thus create economic inefficiency.

The corporate tax will raise nearly $220 billion in 2001, but eliminating it would reduce revenues by less than that amount because both dividends and capital gains realizations would be greater in its absence. Furthermore, removing distortions caused by differential taxation of business activities would improve economic efficiency, leading to a larger economy and consequent higher revenues. Eliminating the corporate tax, however, might not be optimal in terms of efficient tax collection. The tax applies to the retained earnings of firms; those earnings would either escape taxation under the individual income tax or face lower taxes because any tax on them is deferred until corporate shareholders receive them as future dividends or realized capital gains.

Two approaches that would lose less revenue than would eliminating the tax involve integrating the corporate and individual income taxes to reduce or eliminate the efficiency costs that come from double taxation. The more complicated approach would replace the current tax with a comprehensive tax on business income and eliminate taxes on capital income at the individual level. The second, more straightforward approach would eliminate either the individual or corporate taxation of business income within the current structure. That approach could be implemented in stages by reducing the share of income subject to both taxes incrementally over a number of years.

A final issue involves the distributional effects of reducing corporate taxes. Most economists agree that the burden of the current corporate tax falls almost entirely on the owners of all capital, both corporate and noncorporate. Because capital ownership is concentrated toward the upper end of the income distribution, the corporate tax is progressive. Any reduction in the tax would give the bulk of gains to higher-income taxpayers and would almost certainly reduce the progressivity of the federal tax system.

Simplifying the Tax System

Particular features of the tax system might also be targeted because they complicate tax filing. Two features increasingly encountered by taxpayers are the alternative minimum tax and the phaseout of personal exemptions and deductions.

Alternative Minimum Tax. The Congress implemented the alternative minimum tax in 1969 to prevent taxpayers from using tax preferences so intensively that they pay little or no tax. The AMT requires that taxpayers add some preference items to income and then recompute their taxes under rules that disallow most exemptions and deductions, and many credits. That recomputation allows a single exemption—$45,000 for joint filers and $33,750 for single filers—that is phased out completely for high-income taxpayers. The remaining income is then subject to two tax rates: 26 percent on the first $175,000 and 28 percent on any excess. Those taxpayers then pay the higher of the normal tax or the AMT.

The adjustments to the AMT include not just preferences used by high-income taxpayers to avoid

taxes but also commonly used deductions, credits, and personal exemptions. As a consequence, many middle-income families would fall under the AMT but for the Congress's repeated exemption of personal credits from the AMT. That exemption is not permanent, however; in 1999, the Congress exempted all personal tax credits from the AMT only through 2001. More important, unlike many other dollar values used to calculate tax liabilities (such as tax brackets, personal exemptions, and the standard deduction), the values for the AMT exemption and tax brackets are not indexed for inflation. As a result, more taxpayers become subject to the AMT each year. In any case, even if the AMT does not result in greater tax liability, a rising number of taxpayers still have to compute it to determine their liability.

CBO estimates that the number of taxpayers subject to the AMT will grow from 2 million in 2001 to 20 million in 2011 if the tax code is not changed. That growth will raise the revenue attributed to the AMT from $7 billion to $50 billion over the decade. Much of the increased impact of the AMT derives from the fact that personal exemptions, the standard deduction, and tax brackets in the regular tax are indexed for inflation but the AMT exemptions and tax brackets are not. Increasing those two parts of the AMT over time to keep pace with inflation would eliminate most of the growth in the AMT's reach. If such indexation began in 2002, the number of taxpayers subject to the AMT in 2011 would fall to about 1 million, and the revenue attributable to the AMT in that year would drop by about three-fourths, to about $12 billion. Eliminating the AMT would further cut revenues by that amount.

Phaseout of Exemptions and Limitation on Deductions. Because of the progressive rate structure of the individual income tax, reductions in taxable income, such as personal exemptions and itemized deductions, are more valuable to taxpayers in high tax brackets than to those in low brackets. The tax code reduces that disparity by phasing out personal exemptions and limiting itemized deductions for taxpayers with income above specified levels. In 2001, personal exemptions phase out for joint filers with adjusted gross income (AGI) above $199,450 and for individual filers with AGI above $132,950; itemized deductions are reduced by 3 percent of AGI above $132,950. The two limitations differ, however, in that personal exemptions are phased out completely for taxpayers with the highest income but most taxpayers keep a substantial portion of their deductions.

The tax code thus effectively imposes higher tax rates on income in the range over which the exemptions and deductions are reduced. For example, for a married couple with two children and income in 2001 above $199,450, the two phaseouts raise the tax rate on the last dollar of income from the statutory 36 percent to 40.42 percent, or nearly one-eighth higher.[4] The phaseouts also add complexity to the tax code. Eliminating them would simplify the computation of taxes for affected taxpayers at an annual revenue cost of about $16 billion. In addition, it would slightly improve work incentives for taxpayers who face the higher effective tax rates on any additional income. The gains, however, would accrue entirely to taxpayers with income in or above the phaseout range—about 6 million taxpayers with the highest income. Taxpayers with income above the exemption's phaseout range would receive tax cuts with smaller changes in their marginal incentives.

Expanding or Adding to Current Incentives

The Congress might choose to focus tax reductions on people engaging in particular activities it wishes to encourage. Any of the current incentives built into the tax code could be expanded, and the cost would depend on how much the current credits or deductions were raised. For example, the current child credit could be increased, or the deduction for charitable contributions could be extended to families that do not itemize their deductions. Tax subsidies for the purchase of health insurance would encourage people

4. The example assumes that the couple claims itemized deductions and that the phaseout of those deductions equals 3 percent of income over $132,950. In the 36 percent tax bracket, the phaseout increases the couple's marginal tax rate by 36 percent of 3 percent, or 1.08 percentage points. The phaseout of personal exemptions reduces allowed exemptions by 2 percent for each $2,500 of income above $199,450. Without the phaseout, the couple would have four exemptions of $2,900 each, for a total of $11,600. The phaseout reduces that amount by 2 percent of $11,600, or $232, for each $2,500 of income above the threshold—a 9.28 percent rate ($232/$2,500). In the 36 percent tax bracket, that reduction increases the couple's marginal tax rate by 3.34 percentage points (9.28 percent times 36 percent). The combined rise in the couple's tax rate is thus 1.08 percent plus 3.34 percent, or 4.42 percent.

to obtain coverage, although much of the benefit from such subsidies could go to those who were already covered. (See Chapter 2 for a more complete discussion of tax incentives for health insurance.) A long list of new incentives could be added. For example, the Clinton Administration proposed expanding the EITC to assist low-income working families and the Congress recently considered raising the limit on contributions to 401(k) retirement plans.

Earned Income Tax Credit. In 2001, the earned income tax credit will provide low-income working families with up to $4,008 in income tax reduction or, for taxpayers with low or no tax liability, payments in the form of tax refunds. Of the $30 billion cost of the credit in 1999, about 85 percent represented payments to taxpayers in excess of their tax liability. That portion of the credit shows up on the spending side of the federal budget rather than the revenue side.

The EITC has a complicated structure. The credit equals a fixed percentage of earnings up to a maximum that depends on the number of children in the family. The credit stays at that maximum as income rises further, up to a level beyond which the credit is reduced by as much as 21 cents for each additional dollar of income. That reduction continues until the credit falls to zero at a point termed the break-even income. The rates for phasing in and phasing out the credit and the levels of income to which they apply depend on whether the tax unit has no children, one child, or two or more children, with maximum credits rising across the three groups. The credit is refundable; that is, if the credit exceeds a family's tax liability, the family receives the balance as a payment.

Roughly 12 percent of mandatory federal spending on low-income families is provided through the EITC. Its structure, however, creates both incentives and disincentives to work. Furthermore, because the credit is the same for families with two children as for those with more children, it provides less assistance relative to need for larger families. Increasing the credit would concentrate the benefits of the tax cuts among lower-income families. Depending on how the credit was structured, it could improve the incentives to work.

The EITC provides a work incentive for families with earnings in the range over which the credit is rising. Taxpayers with earnings in that range and two children, for example, can claim a tax credit equal to 40 percent of their wages. Such families receive an effective wage that is 40 percent greater than that paid by their employers, thus encouraging them to work more than they would if the wage was unsubsidized. That subsidy is reversed, however, for families with income in the phaseout range. Those families face an effective wage that is less than that paid by their employers; the difference between effective and actual wages is the percentage rate of phaseout, roughly 21 percent for families with two children. Because their net wage (reflecting the loss of the EITC) is lower than their gross wage, families in the phaseout range face a work disincentive and may choose to work fewer hours (although the credit still provides an incentive for such families to continue to hold jobs).

Phasing out the credit more slowly would reduce the work disincentive for families with income in the phaseout range but would give the credit to families earning more than the current break-even income and would reduce their incentive to work. For example, halving the phaseout rate for taxpayers with two children from 21.06 percent to 10.53 percent would raise the break-even income from the current $32,121 to $51,153—roughly the 60th percentile of all families with children. That change would extend the credit to about 4 million families who are not now eligible at an annual cost of roughly $9 billion. The change would have no effect on families with earnings below the phaseout range.

Modifications to the credit could take many forms. The phase-in percentage could be increased to give larger subsidies to working families with the lowest income. That change would also raise the break-even income unless the rate for phasing out the credit was increased as well. The phase-in range could be extended to increase the income range over which wages are subsidized, thus encouraging more families to work. That modification would also lift the break-even income and make more families subject to the work disincentives of the phaseout. Or the amount of the credit could be raised for families with more than two children. That approach would affect relatively few families and would focus added credits on families with arguably the greatest need. For any

of the options, the bulk of the budgetary effect would be to increase outlays for the refundable portion of the credit rather than to reduce revenue collections.

Any expansion of the EITC could increase the complexity of the tax code. Claiming the EITC requires completing an additional form, and any change that raised the break-even income would impose that requirement on more taxpayers. Another issue involves compliance: taxpayers not in traditional families (married couples with children) appear to be unclear about the living arrangements of children that qualify them for the credit. As a result, many taxpayers erroneously claim the credit, either inadvertently or intentionally. In many cases, the Internal Revenue Service lacks the information needed to identify such returns and may consequently allow the credit for ineligible taxpayers. Expanding the EITC would worsen those problems.

Expanded 401(k) Retirement Accounts. The tax code encourages saving in many ways, most commonly by deferring the taxation of income from savings or exempting such income from taxation entirely. Capital gains are taxed only when realized, 401(k) plans and traditional individual retirement accounts (IRAs) are taxed when funds are withdrawn, and the earnings of Roth IRAs are never taxed. (Contributions to Roth IRAs come from after-tax income, which is not the case for traditional IRAs.) But taxpayers with AGI above specified levels may not contribute to either kind of IRA and thus cannot benefit from those incentives to save. In addition, caps on contributions to IRAs and 401(k) plans limit the amount workers can save for retirement in tax-preferred accounts.

The deferral of taxes on 401(k) plans influences a worker's retirement saving in two offsetting ways. The net effect on the individual's total saving depends on which effect dominates. On the one hand, deferring taxes makes future consumption relatively cheaper than current consumption and thus leads people to save more for retirement—what economists call the substitution effect. On the other hand, the higher after-tax return on savings allows people to save less but have the same funds available in retirement as they would have had in the absence of the tax deferral—which induces a drop in savings. Economists refer to that result as the income effect. Which effect is stronger depends on many factors and varies among workers. If employers match some or all of the contributions of their workers, both the substitution and income effects are greater, but the former is likely to dominate.

Workers' annual contributions to 401(k) plans are capped at $10,500. In 1997, about one-quarter of U.S. workers contributed to 401(k) plans.[5] Among participating workers, just over 5 percent were at the maximum. Such workers get no tax advantage from additional saving and thus have no substitution effect to induce it. The tax savings on their contribution do, however, provide an income effect that leads them to save less (probably by putting less into nonretirement savings accounts or investments).

Increasing the cap on employee contributions to 401(k) plans, as recently proposed, would expand benefits primarily for high-income taxpayers—the group most likely to contribute the maximum allowed. In 1997, the median AGI of workers at the cap was well over $100,000. Raising the cap would restore the substitution effect for those now constrained by the cap and induce them to save more, at least up to the point where the new, higher cap limited further saving. The higher cap, however, would also strengthen the income effect, making the net impact on saving indeterminate. Moreover, if a taxpayer's total savings exceeded the new maximum, raising the cap would still offer no incentive to save more—that is, no substitution effect would exist.

Extensive analysis of the use of IRAs and 401(k)-type plans has reached no consensus on how those plans affect saving. For example, Poterba, Venti, and Wise conclude that contributions to such plans largely represent new saving.[6] In contrast, Engen, Gale, and Scholz find that little, if any, of the overall contributions to existing IRA and 401(k)-type plans have raised aggregate saving.[7]

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5. Some of those workers participated in nearly equivalent 403(b) plans that predate 401(k) plans and are open principally to teachers and employees of nonprofit organizations.

6. James M. Poterba, Steven F. Venti, and David A. Wise, "How Retirement Saving Programs Increase Saving," *Journal of Economic Perspectives*, vol. 10, no. 4 (Fall 1996), pp. 91-112.

7. Eric M. Engen, William G. Gale, and John Karl Scholz, "The Illusory Effects of Saving Incentives on Saving," *Journal of Economic Perspectives*, vol. 10, no. 4 (Fall 1996), pp. 113-138.

Chapter Seven

Options to Increase Revenues

REV-01 Limit the Mortgage Principal on Which Interest Can Be Deducted to $300,000

	Added Revenues (Billions of dollars)
2002	2.8
2003	4.1
2004	4.5
2005	4.9
2006	5.4
2002-2006	21.7
2002-2011	55.8

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-02

Buying a home is the largest investment that most Americans make, and the tax code has historically treated homes more favorably than other investments. Most investments pay their return in cash that is subject to income taxes. Homes, however, pay their return in housing "services" provided directly to the owner, and that return is not taxed. Furthermore, the tax code allows homeowners who help finance their purchase with a mortgage to claim the interest paid on that loan as a tax deduction. (Normally, interest can be deducted only if an investment earns taxable income.) In addition, most capital gains from sales of homes are exempt from taxation.

By limiting deductions of mortgage interest, policymakers could lessen the preferential treatment of home ownership for owners who must borrow to purchase their homes. Under current law, taxpayers may deduct interest on up to $1 million of debt that they have incurred to acquire and improve first and second homes. They may also deduct interest on up to $100,000 of other loans that they have secured with a home (for example, home-equity loans), regardless of the loan's purpose. No other type of consumer interest is deductible. (Current law also limits how much the interest deductions for carrying assets other than first and second homes can exceed the income from such assets.)

Reducing the amount of principal eligible for the mortgage interest deduction from $1 million to $300,000 would trim deductions for 1.2 million taxpayers with large mortgages and increase revenues by $55.8 billion over the 2002-2011 period. That change would reduce the deduction only for the small fraction of people who own relatively expensive homes. (In 2000, 7 percent of new mortgages exceeded $300,000.) The percentage of homeowners affected would be greatest in high-cost areas such as Honolulu, San Francisco, Los Angeles, and New York City.

Research has shown that the tax code's preferential treatment of home ownership encourages people to become homeowners and to purchase larger homes. Increasing home ownership, advocates say, contributes to social and political stability by strengthening people's stake in their communities and governments. In addition, home ownership may stabilize neighborhoods by encouraging people to live there longer than they might otherwise, to improve their homes, and to be concerned about their neighborhoods. The size of the tax preference, however, is probably larger than is needed to maintain a high rate of home ownership among people buying homes valued at more than $300,000. Canada achieves about the same rate of home ownership as the United States does without allowing taxpayers to deduct interest on their mortgages. Instead of the deduction, some provinces provide a limited tax credit for low- and middle-income people who save for a down payment.

A disadvantage of treating home ownership more favorably than other investments is that it reduces the savings available for investing in business enterprises whose returns are taxable and, in some cases, investing in education and training. Between one-quarter and one-third of net private investment typically goes into owner-occupied housing. Consequently, less investing in owner-occupied housing could noticeably raise investing in other sectors.

REV-02 Limit the Mortgage Interest Deduction for Second Homes

	Added Revenues (Billions of dollars)
2002	0.5
2003	0.7
2004	0.7
2005	0.8
2006	0.8
2002-2006	3.5
2002-2011	7.8

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-01

Taxpayers who borrow to purchase or improve a second home may deduct the interest on that mortgage under the same terms as those for a first home. The only limit on the amount borrowed for the two homes is that it be under $1 million. Furthermore, equity in both homes may be used as collateral to borrow up to $100,000 that can be used for any purpose and whose interest may be deducted. (Home-equity loans are an example of borrowing that qualifies for such a deduction.)

This option would limit the deductibility of mortgage interest to debt that taxpayers incur to acquire and improve a primary residence, plus $100,000 of other debt secured by that home. Under that approach, taxpayers could deduct the interest on loans for second homes only to the extent that the loans qualified under the $100,000 limit on home-equity borrowing. The limitation would increase revenues by $7.8 billion over the 2002-2011 period.

Several arguments for and against restricting the deductibility of all mortgage interest appear in option REV-01. Additional considerations apply to interest on mortgages for second homes. On the one hand, permitting some taxpayers to deduct the interest from those mortgages—many of which finance vacation homes—may seem inequitable when other taxpayers cannot deduct interest from consumer loans used to pay for medical expenses or other needed purchases. On the other hand, restricting the deduction of mortgage interest to a single home may be inequitable as well. Taxpayers with a big bill for interest on a mortgage for a costly primary home would keep the current deduction. But the deduction would be partially denied to other taxpayers who paid the same amount of total interest but on mortgages for two less-costly homes.

REV-03 Limit Deductions of State and Local Taxes to the Amount Exceeding 2 Percent of Adjusted Gross Income

	Added Revenues (Billions of dollars)
2002	6.0
2003	20.3
2004	20.8
2005	21.4
2006	21.8
2002-2006	90.3
2002-2011	205.3

SOURCE: Joint Committee on Taxation.

In determining their taxable income, taxpayers may either claim a standard deduction or itemize certain specific expenses and deduct them from their adjusted gross income (AGI). Such expenses include state and local taxes on income, real estate, and personal property. For taxpayers who itemize, those deductions essentially provide a federal subsidy for state and local tax payments. Consequently, the deductions indirectly finance increased spending by state and local governments at the expense of other uses of federal revenues. This option would establish a floor on deductions for state and local tax payments, limiting deductibility to the amount in excess of 2 percent of a taxpayer's AGI.

One of the arguments made for allowing taxpayers to deduct state and local tax payments is that the practice helps mitigate the effect of differences in taxes among the states. This option would continue some of that mitigating effect and increase federal revenues by about $205 billion over the 2002-2011 period. An alternative approach would be to prohibit deductions for payments above a fixed ceiling, which might also be a percentage of AGI. A ceiling of 5.85 percent of AGI, for example, would increase revenues by about the same amount—$209 billion in 2002 through 2011. However, a floor and a ceiling would have very different effects on incentives for spending by state and local governments. A floor would encourage spending, whereas a ceiling would discourage it.

As a way to assist state and local governments, the deductibility of state and local taxes has several disadvantages. First, it benefits only taxpayers who itemize their expenses and not people who claim the standard deduction. Second, because the value of an additional dollar of deductions increases with the marginal tax rate (the rate on the last dollar earned), the deductions are worth more to taxpayers in higher income tax brackets. Third, deductibility favors wealthier communities. Communities with a higher average level of income have more residents who itemize than do lower-income communities. Because deductibility benefits only people who itemize and wealthier communities have a greater proportion of such taxpayers, public spending in those localities receives a bigger federal subsidy. Fourth, deductibility may deter states and localities from financing services with nondeductible user fees, thereby discouraging more efficient pricing of some services.

One argument against restricting deductibility is based on equity. A taxpayer with a large liability for state and local taxes is less able to pay federal taxes than a taxpayer with the same total income and a smaller state and local tax bill. In some areas, however, a taxpayer who pays higher state and local taxes may benefit from more publicly provided services, such as recreational facilities. In that case, the taxes are similar to payments for other goods and services (for example, private recreation) that are not deductible. Alternatively, higher public expenditures resulting from deductibility benefit all members of a community, including lower-income taxpayers who do not itemize and thus receive no direct tax savings.

REV-04 Limit Deductions for Charitable Gifts of Appreciated Property to the Gifts' Tax Basis

	Added Revenues (Billions of dollars)
2002	0.3
2003	2.0
2004	2.1
2005	2.1
2006	2.2
2002-2006	8.7
2002-2011	20.3

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-05, REV-28-A, REV-28-B, and REV-29

Under current law, taxpayers who itemize deductions may deduct the value of contributions they make to qualifying charitable organizations up to a maximum of 50 percent of adjusted gross income in any year. In addition to donating cash, taxpayers may contribute assets such as stocks or art. The tax code gives special treatment to taxpayers who contribute property that has appreciated in value. If the taxpayer has held the property for more than 12 months, he or she may deduct its fair market value at the time of the gift regardless of its original price.

This option would limit the deduction for appreciated property to its tax basis—the initial cost of the asset plus the cost of any subsequent improvements and minus any deductions for depreciation. That change would increase revenues by about $0.3 billion in 2002 and more than $20 billion over 10 years.

The existing provision allows taxpayers to deduct the entire value of assets they contribute to charities even though they have paid no tax on gains from appreciation of the assets. That outcome treats one kind of donation more advantageously than others—for example, cash—and expands the preferential treatment of capital gains in the tax code (see options REV-28-A, REV-28-B, and REV-29). Indisputably, however, the current provision encourages people to donate appreciated assets to eligible charities rather than leave them to their heirs at death, when any gains also escape income tax (see option REV-05).

Through the deduction for charitable contributions, the federal government provides significant support for philanthropic activities. But one criticism of the deduction involves its inequity: the subsidies that the government provides for contributions vary for different taxpayers. The rate of the subsidy for the highest-income taxpayers can approach 40 percent of their contributions (essentially, the marginal tax rate), but the rate is only 15 percent for taxpayers in the lowest tax bracket. Moreover, there is no benefit for people who do not itemize deductions. Another criticism is that the electorate as a whole, and not individual donors, should make decisions about which charitable activities deserve support by taxpayers.

REV-05 Limit Deductions for Charitable Giving to the Amount Exceeding 2 Percent of Adjusted Gross Income

	Added Revenues (Billions of dollars)
2002	1.8
2003	11.8
2004	12.3
2005	12.9
2006	13.6
2002-2006	52.4
2002-2011	131.5

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-04

Current law allows taxpayers who itemize to deduct the value of contributions they make to qualifying charitable organizations up to a maximum of 50 percent of adjusted gross income (AGI) in any year. It also permits taxpayers to deduct contributions of appreciated property at their fair market value at the time of the gift, rather than at their original value (see option REV-04). In 1997, 32.6 million taxpayers claimed just over $99.2 billion of deductions for charitable contributions, reducing federal revenues by about $25 billion.

This option would limit the charitable deduction but retain an incentive for giving by allowing taxpayers to deduct only contributions that exceed 2 percent of AGI. That approach would increase revenues by about $1.8 billion in 2002 and about $131.5 billion over the 2002-2011 period.

The limit proposed in this option would retain the incentive for increased giving by people who donate a large share of their income but remove the incentive for people who contribute smaller amounts. The option would completely disqualify the deductions for charitable giving of about 19.1 million taxpayers in 2001 and would reduce allowed deductions for roughly another 15.6 million. Overall, the change would eliminate the tax incentive for just over half of the taxpayers who currently make and deduct such gifts. As a result, total charitable giving would decline. In addition, establishing a floor of 2 percent on contributions would encourage taxpayers who planned to make gifts over several years to lump them together in one tax year to qualify for the deduction.

REV-06 Phase Out the Child and Dependent Care Credit

	Added Revenues (Billions of dollars)
2002	0.5
2003	1.9
2004	1.9
2005	1.8
2006	1.7
2002-2006	7.8
2002-2011	15.3

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-14

Taxpayers who incur employment-related expenses for the care of children and certain other dependents may claim a credit against their income taxes. The credit, which is calculated per dollar of qualifying expenses, declines from 30 percent for taxpayers whose adjusted gross income (AGI) is $10,000 or less to 20 percent for taxpayers whose AGI is $28,000 or more. Tax law limits credit-applicable expenses to $2,400 for one dependent and $4,800 for two or more. The maximum credit each year for a taxpayer with one dependent and income above $28,000 is thus $480. Credit-applicable expenses cannot exceed the earnings of the taxpayer or, in the case of a couple, the earnings of the spouse with lower earnings. In 1998, taxpayers claimed about $2.5 billion in credits on 6 million tax returns.

About two-fifths of the credit goes to taxpayers with AGI of $50,000 or more. Retaining the credit only for lower-income families would reduce its cost in lost revenues. One way to do that is to lower the credit as income rises. For example, trimming the credit by 1 percentage point for each $1,500 of AGI over $30,000—and thus eliminating it completely for families with AGI over $58,500—would raise $15 billion from 2002 through 2011. That option would reduce or eliminate the credit for about 72 percent of currently eligible families. Alternatively, phasing out the credit for taxpayers with AGI between $50,000 and $78,500 would raise about $11 billion in the same period and would reduce or eliminate the credit for nearly half of all eligible families. Finally, phasing out the credit between $65,000 and $93,500 would raise $8 billion over the 10-year period and reduce or eliminate the credit for about one-third of eligible families.

Through the credit, the federal government pays a portion of the employment-related expenses that some taxpayers incur for care of their children and dependents. Phasing out the credit for higher-income families would target that subsidy toward families with lower incomes. At the same time, however, the reduced credit might discourage some people from working outside the home.

In some circumstances, the budgetary savings from this option could be smaller than those presented here. Current law allows workers to exclude from their taxable income up to $5,000 of annual earnings used to pay for dependent care through qualifying employer-sponsored programs. If more employers offered such programs in response to the loss of the credit by their employees, the lower revenues from the excluded earnings under those plans could offset the savings from this option. To realize more of those savings, the Congress could limit the use of employer-sponsored care (see option REV-14).

REV-07 Include Social Security Benefits in Calculating the Phaseout of the Earned Income Tax Credit

	Added Revenues[a] (Billions of dollars)
2002	b
2003	0.9
2004	0.9
2005	0.9
2006	1.0
2002-2006	3.7
2002-2011	9.0

SOURCE: Joint Committee on Taxation.

a. Includes outlay savings.

b. Less than $50 million.

Under current law, the earned income tax credit (EITC) phases out as the larger of earned income or adjusted gross income (AGI) exceeds a certain threshold. For that phaseout, the Taxpayer Relief Act of 1997 expanded the definition of AGI to include tax-exempt interest and nontaxable distributions from pensions, annuities, and individual retirement accounts that have not been rolled over into similar vehicles. However, that modified AGI still excludes most income from government transfer programs such as Social Security.

As a result of the exclusion, low-income families that receive sizable transfers can claim the EITC with the same total income that will reduce or deny the credit to otherwise comparable families whose income is fully included in their AGI. The tax code already requires some Social Security benefits to be counted: for single taxpayers with income above $25,000 and joint filers with income above $32,000, AGI includes up to half of any Social Security benefits. This option would require taxpayers to include all Social Security benefits in a modified AGI used for phasing out the EITC. That change would increase federal revenues and decrease outlays for the credit by about $1 billion in 2003 and $9 billion over the 2002-2011 period.

One argument supporting this option is that it would make the EITC fairer. Counting all Social Security benefits in the calculation for phasing out the credit would give the same EITC to both low-income taxpayers receiving Social Security and claiming the credit and otherwise comparable taxpayers whose income derives entirely from sources that are fully included in AGI. In addition, because the Internal Revenue Service (IRS) already receives information on taxpayers' Social Security benefits, administering this option would require only minor procedural changes.

The modified AGI would still exclude some transfers, however, and this option thus would not resolve the problem of families with the same total income receiving different credits. Another issue is the option's implementation. The IRS does not currently receive information on most forms of taxpayers' transfer income other than Social Security. As a result, requiring taxpayers to count all such income would substantially expand the information reported to the IRS and markedly increase taxpayers' "costs" for compliance (for example, time spent filling out forms). Furthermore, because most transfer income not included in AGI is from means-tested programs, counting all transfers in phasing out the EITC would offset, at least in part, the goal of providing income to poor recipients. Even so, excluding any transfers from the income measure used to phase out the credit would result in differential treatment of otherwise similar taxpayers.

In addition, counting Social Security benefits for the EITC phaseout would increase the costs of compliance for Social Security recipients claiming the credit and would further complicate the already complex form such taxpayers must complete. Those outcomes would run counter to recent efforts to simplify procedures for claiming the EITC.

REV-08 Limit the Tax Benefit of Itemized Deductions to 15 Percent

	Added Revenues (Billions of dollars)
2002	43.3
2003	98.4
2004	103.8
2005	109.5
2006	115.7
2002-2006	470.7
2002-2011	1,162.4

SOURCE: Joint Committee on Taxation.

Current law allows taxpayers to reduce their taxable income by the amount of their itemized deductions. Taxpayers who itemize may deduct state and local income and property taxes, interest payments on their home mortgages, contributions to charity, employee business expenses, moving expenses, casualty and theft losses, and medical and dental expenses. Taxpayers benefit from itemizing if their deductions exceed the standard deduction. Current law limits some itemized deductions (such as the one for medical expenses) to the amount in excess of a percentage of a taxpayer's adjusted gross income; the law reduces all itemized deductions for high-income taxpayers.

The benefit taxpayers gain from itemizing deductions, like the benefit for all deductions, increases with their marginal tax bracket (the bracket that applies to the last dollar earned). For example, $10,000 in itemized deductions reduces taxes by $1,500 for a taxpayer in the 15 percent bracket, by $2,800 for a taxpayer in the 28 percent bracket, and by $3,960 for a taxpayer in the 39.6 percent bracket. Most taxpayers, however, do not itemize deductions. Of the 30 percent of taxpayers who do, about half are in tax brackets above 15 percent. This option would limit the tax benefit for those higher-bracket taxpayers to 15 percent of their itemized deductions. It would increase revenues by about $471 billion over five years and about $1.2 trillion over 10 years.

Reducing the benefit from itemizing deductions would have several advantages, say supporters of this option. It would make the income tax more progressive by raising average tax rates for most middle- and upper-income taxpayers. And economists would argue that it might also improve economic efficiency because it would cut subsidies—provided in the form of lower taxes—that reduce the after-tax prices of selected goods, such as mortgage-financed, owner-occupied housing.

Opponents would argue, however, that the itemized deductions for health expenses, casualty losses, and employee business expenses are not subsidies of voluntary activities but rather allowances provided by the tax code for costs that reduce a person's ability to pay income tax. Under this option, some taxpayers would pay tax on the income that they used to defray such costs—because they would pay tax on their gross income at rates above 15 percent but could deduct only 15 percent of the cost of earning that income. Thus, a person with unusually high medical bills, for example, would pay more tax than another person with the same ability to pay but with low medical bills.

Like other restrictions on itemized deductions, the one outlined in this option would create incentives for taxpayers to avoid the constraint by converting itemized deductions into reductions in income. For example, taxpayers might liquidate some of their assets to repay mortgage loans, thus reducing both their income (from the assets) and their mortgage payments. Or they might donate time or services to charities rather than cash. The option would also make calculating taxes more complex for people who itemize.

REV-09 Eliminate Tuition Tax Credits for Postsecondary Education

	Added Revenues (Billions of dollars)
2002	3.2
2003	4.3
2004	4.3
2005	4.3
2006	4.3
2002-2006	20.4
2002-2011	41.3

SOURCE: Joint Committee on Taxation.

In recent years, policymakers have established two tax credits to help students and their families finance postsecondary education:

- The Hope credit is available to cover up to two years of tuition and fees that qualify under the program's rules. The credit, which is applied directly against individual income taxes, equals 100 percent of the first $1,000 in qualifying expenses and 50 percent of the next $1,000 for each family member.

- The lifetime learning credit is capped at 20 percent of the first $5,000 ($10,000 after 2002) of a family's total qualified expenses.

A taxpayer may claim both credits but not for the same student. The credits, which are effectively subsidies from the federal government, phase out when taxpayers' incomes reach specific amounts (between $40,000 and $50,000 for single returns and between $80,000 and $100,000 for joint returns). Eliminating the credits would raise $41.3 billion between 2002 and 2011.

Proponents and opponents of the credits have differing views about what the credits accomplish. According to proponents, the credits remedy a failing of capital markets in the private sector, which are not always ready to lend money to potential students whose only collateral is their future earnings. But that problem, say opponents, is already being addressed. The federal government helps students pay for postsecondary studies by guaranteeing loans that private-sector lenders make and by lending money directly.

Even in a context of no capital market failure, the credits might still be valuable if they encouraged more investment in education and the additional education yielded benefits to the community over and above the direct benefits to the student. Economic theory indicates, however, that financial help covering only part of a student's educational costs—help that does not affect the marginal, or last, dollar spent—has little influence on the amount of schooling the student obtains. For most recipients, the credits are pure income transfers, representing windfall gains that have little effect on enrollments. Furthermore, because the credits are not refundable, they do little to encourage low-income families to invest in postsecondary education.

Arguments against eliminating the credits can also be made, however. Without them, investment in education would decline, if only by a small amount, with some students reducing the amount of schooling they obtained. In addition, to the extent that the credits were intended to offset the already substantial and rising costs of higher education, removing them would block that effect.

REV-10 Substitute a Tax Credit for the Exclusion of Interest Income on State and Local Debt

	Added Revenues (Billions of dollars)
2002	0.2
2003	0.5
2004	0.9
2005	1.2
2006	1.6
2002-2006	4.4
2002-2011	16.8

SOURCE: Joint Committee on Taxation.

The tax code allows owners of state and local bonds to exclude the interest they earn on those bonds from their gross income—and thus from income tax. As a result, state and local governments pay lower interest rates on such bonds than would be paid on bonds of comparable risk whose interest was taxable. The revenues that the federal government forgoes exceed $20 billion per year and effectively subsidize (pay a portion of) the costs that state and local governments incur when they borrow.

This option would replace the exclusion of interest income on new issues of state and local debt with a tax credit that, unlike most credits, would be included in adjusted gross income. Under the option, the bondholder would receive a taxable interest payment from the state or local government issuing the bond plus the tax credit equaling 28 percent of the interest payment. The option would retain existing restrictions that now apply to the issuance of tax-exempt bonds. Adopting the tax credit would raise $16.8 billion over the 2002-2011 period.

Switching to a tax credit rather than excluding interest paid on state and local debt from the gross income of bond purchasers would yield several benefits. It could reduce state and local borrowing costs by a similar percentage but with a smaller loss of federal revenues. The loss would be smaller because switching to a credit would eliminate gains for bondholders in higher marginal tax brackets that exceeded the investment return necessary to induce them to buy the bonds. In addition, the size of the tax credit could be varied to allow the Congress to adjust the size of the federal subsidy—on the basis of perceived benefit to the public—for different categories of state and local borrowing. Nevertheless, substituting a tax credit for the exclusion would keep the bond subsidy akin to an entitlement.

The switch to a tax credit would also have some drawbacks, however. For example, it would reduce the after-tax return of people with higher marginal tax rates and thus lead them to buy fewer bonds. If that drop in demand for bonds was not offset by increased demand from other investors, state and local borrowing costs would be reduced by a smaller percentage, and interest rates on state and local debt would rise. Paying higher rates for borrowing could lead state and local governments in turn to reduce investments in capital facilities.

REV-11 Impose an Excise Tax of 3 Percent on Nonretirement Fringe Benefits

	Added Revenues (Billions of dollars)
2002	6.4
2003	9.0
2004	9.6
2005	10.1
2006	10.8
2002-2006	45.9
2002-2011	110.0

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-12, REV-13, REV-14, and REV-21

Unlike compensation paid to employees in cash, many fringe benefits are exempt from income and payroll taxes, resulting in lost revenues to the federal government. Exempting employer-paid health and life insurance premiums leads to the biggest loss—in 2001, about $71 billion in income taxes and $49 billion in payroll taxes. In addition to those exemptions, the law explicitly excludes from gross income dependent care paid for by an employer and miscellaneous benefits such as employee discounts and parking whose value is below a specified limit. Imposing an excise tax on fringe benefits would diminish the revenues lost as a result of those exclusions.

By excluding fringe benefits from gross income, the federal government effectively subsidizes their cost, leading people to consume more of such benefits than they would if they had to pay the full price. As a consequence, society's resources may be allocated inefficiently. For example, excluding employer-provided health insurance from taxation has probably led to greater spending on health care services than would have occurred if firms and workers had been faced with the actual cost of health insurance (see option REV-12).

A further disadvantage of such exclusions is their inequity. People whose compensation is paid all in cash pay more tax than people who have the same total income but are paid partly in fringe benefits. Moreover, because the tax exclusion is worth more to taxpayers in higher tax brackets and because higher-income taxpayers receive more fringe benefits than lower-income people, the tax savings from the exclusion are unevenly distributed among income groups.

Making all fringe benefits taxable to recipients is not without its difficulties, however, particularly in valuing benefits and assigning their value to individual employees. That problem could be avoided by imposing an excise tax on employers linked to the value of the benefits they provide. Those benefits would include the employer's share of health insurance (see option REV-12), premiums for the first $50,000 of employer-paid life insurance (see option REV-13), dependent care (see option REV-14), athletic facilities, employee discounts, and parking with a value up to the amount above which it is currently taxed. (Under current law, employees in 2000 must include in their taxable income the market value in excess of $175 per month of any parking provided free of charge by an employer.) Imposing an excise tax of 3 percent on fringe benefits, for example, would raise $110 billion from 2002 through 2011. The bulk of those revenues would come from taxing employer-paid health insurance.

This option would require employers to report only their total costs for fringe benefits. Because the rate of the excise tax would be much lower than the rate of the tax on wages, this option would maintain most of the incentive for employers to provide fringe benefits instead of taxable wages. For employees in higher-wage firms, an excise tax on employers would be relatively more favorable than including fringe benefits in employees' taxable income because unlike income tax rates, the rate of the excise tax would not rise with income.

REV-12 Limit the Tax Exemption for Employer-Paid Health Insurance

	Added Revenues (Billions of dollars) Income Tax	Payroll Tax
2002	8.9	6.7
2003	13.7	10.3
2004	15.3	11.5
2005	17.2	12.8
2006	19.4	14.2
2002-2006	74.5	55.5
2002-2011	214.9	156.3

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-11 and REV-21

RELATED CBO PUBLICATION:

The Tax Treatment of Employment-Based Health Insurance (Study), March 1994.

Employees do not pay taxes on income they receive in the form of employer-paid health insurance. In addition, the tax code generally excludes health insurance premiums and health care costs paid through cafeteria plans from income and payroll taxes. Excluding those benefits from taxation will reduce revenues from income and payroll taxes by a total of about $120 billion in 2001.

This option would limit the exemption of employer-paid health insurance and recoup some of those lost revenues. Specifically, it would treat as taxable income for employees any contributions that their employer makes for health insurance plus health care costs paid through cafeteria plans that together exceed $500 a month for family coverage and $200 a month for individual coverage. (Those ceilings are estimated average contributions for 2001; they would be indexed to reflect future increases in the general level of prices.) The option would increase income tax revenues by $214.9 billion and payroll tax revenues by $156.3 billion over the 2002-2011 period. Including employer-paid coverage for health care in the Social Security wage base, however, would increase future outlays for Social Security benefits. Over the long run, those outlays could offset a significant part of the added payroll tax revenues from this option.

Eliminating the incentive that the tax code now offers employees to purchase additional coverage beyond the ceiling could have broader consequences than its effects on revenues. It would encourage employees to economize in the medical marketplace, which could reduce both upward pressure on medical care prices and the use of unnecessary services or those of marginal value. The option could constrain health care costs even more over time because it would index the ceilings to the overall rate of inflation and health care costs have been rising faster than that. The Congress has already limited the exclusion for employer-paid group term life insurance in a similar way.

The option, however, has drawbacks that may argue for treating it differently from a life insurance benefit. One disadvantage of limiting the exemption of employer-paid medical insurance premiums is the difficulty of determining when extensive coverage becomes excessive. In addition, the coverage purchased by a given premium depends on such factors as geographic location and the characteristics of a firm's workforce. As a result, a uniform ceiling would have uneven effects. Furthermore, if the cost of health insurance continued to rise faster than the general level of prices, indexing to reflect that level would gradually reduce subsidies for employer-paid health insurance. Taken together, those factors could increase the number of workers without health insurance and generate inequities among taxpayers by region and type of employer.

REV-13 Include Employer-Paid Life Insurance in Taxable Income

	Added Revenues (Billions of dollars) Income Tax	Payroll Tax
2002	1.1	0.6
2003	1.6	0.9
2004	1.7	1.0
2005	1.7	1.0
2006	1.8	1.1
2002-2006	7.9	4.6
2002-2011	17.6	10.4

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-11, REV-18, and REV-21

Tax law excludes from taxable income the premiums that employers pay for employees' group term life insurance, but it limits that exclusion to the cost of premiums for the first $50,000 of insurance. (The exclusion is not available to self-employed people.) Of the fringe benefits that offer a tax advantage to their recipients, employer-paid life insurance is the third most expensive in terms of lost revenues (after health insurance, discussed in option REV-12, and pensions). Including premiums for employer-paid life insurance in taxable income would add $17.6 billion to income tax revenues and $10.4 billion to payroll tax revenues from 2002 through 2011.

Excluding life insurance premiums from taxation has ramifications for both efficiency and equity. Like the tax exclusions for other employment-based fringe benefits, the exclusion for life insurance creates a subsidy for that benefit, which causes people to purchase more life insurance than they would if they had to pay the full cost of it themselves. Furthermore, excluding premiums from taxation allows workers whose employers purchase life insurance for them to pay less tax than workers who have the same total compensation but must purchase insurance on their own (see option REV-11). Those factors, which some people might view as arguments supporting this option, are reinforced by the relative ease with which the alternative could be implemented. The value of employer-paid life insurance, unlike the value of some other fringe benefits, can be accurately measured and allocated. Employers could report the premiums they paid for each employee on the employee's W-2 form and compute withholding in the same way as for wages. Indeed, employers already withhold taxes on the life insurance premiums they pay that fund death benefits above the $50,000 limit.

A tax subsidy to provide life insurance might be called for, however, in certain circumstances. One such case might be if people bought too little life insurance because they systematically underestimated the potential financial hardship to their families that their death might bring. Whether, in fact, people purchase too little insurance for that reason is unclear. Moreover, even if too little life insurance was purchased, a more efficient way of encouraging people to buy it might be to provide a direct tax subsidy to all purchasers and avoid subsidizing only people with insurance provided by employers.

REV-14 Eliminate the Tax Exclusion for Employer-Sponsored Dependent Care

	Added Revenues (Billions of dollars)
2002	0.7
2003	0.7
2004	0.7
2005	0.8
2006	0.8
2002-2006	3.7
2002-2011	9.1

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-06, REV-11, and REV-21

The tax system provides two kinds of subsidies for the expenses that working taxpayers incur for the care of children or other dependents. First, an employer may provide an arrangement for care, either directly or indirectly, essentially as a fringe benefit. The expenses for that care would then be excluded from the taxable income of the employee (lowering the employee's taxable wages and both the employer's and employee's liability for Social Security and Medicare payroll taxes). Second, employees who do not use employment-based subsidies may receive a tax credit, which is calculated as a percentage of their qualifying expenses for care. The two subsidies provide benefits for the same activities, but the subsidy from the employment-based tax exclusion can be much larger than that from the child and dependent care credit. Eliminating the exclusion and making all tax benefits for dependent care available only through the credit would swell revenues by $9.1 billion from 2002 through 2011.

Employers may exclude up to $5,000 for child and dependent care expenses from the taxable wages of their employees. That care, however, must either be provided by the employer directly or be obtained through other providers under a qualified plan that the employer has established. The tax code limits the maximum excluded amount to a taxpayer's earnings or, for married taxpayers, the earnings of the lesser-earning spouse. As with all types of exclusions, the value of the benefit depends on the taxpayer's marginal tax rate (the rate of tax on the last dollar earned).

Taxpayers who do not receive employment-based subsidies may claim a credit against their income tax. Current law limits the credit, which is nonrefundable, to annual expenses of $2,400 for one dependent and $4,800 for two or more dependents. As with the exclusion, the total amount of qualifying expenses may not exceed the earnings of the taxpayer or, in the case of a couple, those of the lower-earning spouse. The rate of the credit per dollar of qualifying expenses starts at 30 percent for taxpayers whose adjusted gross income (AGI) is $10,000 or less and then phases down to 20 percent for taxpayers whose AGI is $28,000 or more. The rate for most taxpayers is 20 percent, which results in a maximum credit of $480 for one dependent and $960 for two or more dependents. In 1998, about 6 million taxpayers claimed $2.5 billion in credits.

Even though they subsidize the same activities, the credit and the exclusion provide significantly different benefits. For example, under the employment-based exclusion, a high-income taxpayer with one child could receive an income tax benefit of up to $1,980 and a reduction in payroll taxes. Under the credit, the same taxpayer would receive a benefit of only $480 and no payroll-tax reduction. Eliminating the exclusion would treat taxpayers with similar dependent care circumstances more equitably because it would remove the advantage given to workers whose employers had established qualifying exclusion programs. It would also reduce complexity by simplifying taxpayers' calculations on their income tax forms.

Eliminating the exclusion, however, could have effects that might be considered negative. The total subsidies available for expenses related to child and dependent care would be smaller, which could induce some workers (particularly second earners in couples) to leave the labor force. A further argument against this option concerns whether expenses for dependent care are considered a cost of employment. The tax code allows taxpayers to exclude some of those costs. If dependent care is deemed to be a cost of employment, then eliminating the exclusion for it may be inappropriate.

REV-15 Limit the Tax Exclusion for Qualified Parking to Locations from Which Employees Commute in Vans and Carpools

	Added Revenues (Billions of dollars)
2002	0.7
2003	0.7
2004	0.7
2005	0.8
2006	0.8
2002-2006	3.7
2002-2011	9.0

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-21

The tax code allows employees to exclude from their taxable income the value of certain expenses for transportation that are paid by their employers. Those expenses include transportation in a van or other commuter highway vehicle, transit passes, and so-called qualified parking. (Qualified parking can be parking at or near an employer's place of business as well as parking provided at or near a place from which the employee commutes to work in a commuter highway vehicle or carpool.) The law limits the amount per month that can be excluded from an employee's income to \$65 for commuter highway vehicles and transit passes and \$175 for qualified parking. In effect, the tax exclusion provides a subsidy (in the form of lower taxes) from the federal government.

Under this option, employees would be able to exclude only their costs for parking at sites from which they continue on to work in a commuter highway vehicle or carpool and not their costs for parking at or near their job. The option would increase revenues by \$9 billion over the 2002-2011 period.

By raising the cost of commuting by private vehicle, this option could lead workers to drive less and thereby reduce air pollution and traffic congestion. In economic terms, those outcomes might be more efficient than the current situation: because drivers do not bear the full cost of the air pollution and highway congestion they cause, they may drive more than is efficient. Subsidizing parking at work exacerbates that problem by further encouraging workers to drive. Additionally, because the subsidy for parking exceeds that for mass transit, workers who would otherwise be indifferent to which of the two modes of transportation they used will choose to commute by car.

Eliminating the subsidy for parking near their place of business will not coax all workers into using mass transit, vans, or carpools, however. Some drivers would continue to drive to work, even without a subsidy. For people who must drive to work, eliminating the subsidy would result in a transfer (as taxes paid on the value of transportation expenses covered by employers) from the worker to the Treasury rather than an incentive to pollute less. Furthermore, the current subsidies for mass transit may already offer an economically appropriate inducement for commuters to use public transportation rather than to drive. If so, reducing tax subsidies for parking could shift the balance too far in favor of mass transit. Finally, taxing the value of parking would increase the reporting employers are required to do and make completing tax returns more complicated for many workers.

REV-16 Include Employer-Paid Income-Replacement Insurance Premiums (Unemployment, Workers' Compensation, and Disability) in Taxable Income

	Added Revenues (Billions of dollars)
2002	9.5
2003	9.7
2004	9.6
2005	10.3
2006	11.0
2002-2006	50.1
2002-2011	116.0

SOURCE: Joint Committee on Taxation.

Current tax law treats benefits that replace income for unemployed and injured or otherwise disabled people in various ways. Unemployment benefits are fully taxable. Benefits under the workers' compensation program, however, are exempt from tax. How disability benefits (for non-work-related injuries) are treated depends on who paid the premiums for that insurance. If an employer paid them, the benefits are taxable (but the person's tax liability may be partially offset by the credit for the elderly or the disabled). If the employee paid the premiums out of after-tax income, the benefits are not taxed.

This option would eliminate some of the disparities in the tax code's treatment of such benefits. It would not tax income-replacement benefits, but it would treat as taxable income to the covered employee several premiums that employers pay, including taxes under the Federal Unemployment Tax Act and the various state unemployment programs, 60 percent of premiums for workers' compensation (excluding the portion that covers medical expenses), and the portion of insurance premiums or of contributions to pension plans that funds disability benefits. Altogether, those changes would increase revenues by $116 billion from 2002 through 2011.

Treating different kinds of income-replacement insurance similarly would have several advantages. It would eliminate the somewhat arbitrary distinctions in the taxation of various income-replacement benefits. And it would spread the tax burden among all workers covered by such insurance when they are well rather than place the burden on those unfortunate enough to need benefits (as is currently the case with unemployment benefits and employer-paid disability insurance).

This option could have downsides as well, however. Under current law, the income-replacement portion of adjudicated awards and out-of-court settlements for injuries not related to work and not covered by insurance is entirely exempt from tax. The treatment of employer-paid premiums under the option would be inconsistent with that approach. Moreover, treating unemployment insurance the way this option proposes would allow supplemental benefits that are occasionally appropriated by the Congress during especially lengthy periods of unemployment to escape taxation. A further effect of not taxing those benefits is that it would reduce the incentive for unemployed people to accept available work. Finally, calculating the portion of contributions to defined benefit pension plans that covers disability insurance would place an additional administrative burden on employers.

REV-17-A Tax Social Security and Railroad Retirement Benefits Like Private Pensions

	Added Revenues (Billions of dollars)
2002	10.4
2003	26.3
2004	27.3
2005	28.2
2006	29.1
2002-2006	121.3
2002-2011	283.7

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-17-B and REV-19

RELATED CBO PUBLICATION:

Reducing Entitlement Spending (Study), September 1994.

Under current law, most benefits from Social Security and Railroad Retirement are treated preferentially—that is, they are not subject to tax. Recipients pay tax only if the sum of their adjusted gross income (AGI), their nontaxable interest income, and one-half of their Social Security and Tier I Railroad Retirement benefits exceeds a fixed threshold. If that total is more than $25,000 for single returns or $32,000 for joint returns, up to 50 percent of the benefits are taxed. Above a second set of thresholds—$34,000 for single returns and $44,000 for joint returns—up to 85 percent of the benefits are taxed. Together, those levels constitute a three-tiered structure for taxing benefits.

Distributions from private pension plans are taxable except when those payments represent the recovery of an employee's after-tax contributions (or "basis"). To carry out that recovery, the pension plan calculates the accumulated after-tax contributions as a percentage of the total value of the account (for defined contribution plans) or the expected value of future benefits (for defined benefit plans). The percentage is applied to each year's distributions from the plan to determine the portion that is nontaxable. Once the employee has recovered his or her entire basis tax-free, all subsequent distributions are fully taxed.

A basis exists for Social Security and Railroad Retirement recipients as well, because employees (or self-employed people) pay 50 percent of the payroll taxes supporting those programs out of their after-tax income. This option would tax all Social Security and Railroad Retirement benefits in excess of that basis, which could be recovered in the same manner as for a private pension. Under such an approach, the taxable percentage of benefits would exceed 85 percent for the overwhelming majority of recipients, and revenues would increase by $283.7 billion between 2002 and 2011.

This option would make the tax system more equitable in at least two ways. First, it would eliminate preferences under the tax code that are now given to Social Security benefits but not to private pension benefits—both the slight preference accorded to higher-income taxpayers and the much larger preference given to low- and middle-income taxpayers. Second, it would treat elderly taxpayers in the same way that nonelderly taxpayers with comparable income are treated. In addition, the option would remove the deterrent to saving for retirement that is associated with the three-tiered tax structure (see REV-17-B for details) and make preparing tax returns for elderly people substantially simpler.

Set against those seemingly positive features, however, are several arguments against this option. One drawback is that under it, more elderly people would have to file tax returns than under current law. In addition, retirees might feel that increasing taxes on benefits violates the implicit promises of the Social Security and Railroad Retirement programs. Furthermore, calculating the percentage of each recipient's benefits to exclude from taxation would impose an additional burden on the Social Security Administration.

REV-17-B Include 85 Percent of Social Security and Railroad Retirement Benefits in Taxable Income for All Recipients

	Added Revenues (Billions of dollars)
2002	9.0
2003	22.8
2004	23.6
2005	24.3
2006	24.6
2002-2006	104.3
2002-2011	242.3

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-17-A and REV-19

RELATED CBO PUBLICATION:

Reducing Entitlement Spending (Study), September 1994.

Most benefits from the Social Security and Railroad Retirement programs are not subject to income taxation (see option REV-17-A for details). But about one-third of all households receiving benefits from those programs will pay income tax on some portion of the payments in 2002, and about one-half of those households will pay tax on 85 percent of their benefits. Those proportions will increase over time as nominal incomes rise relative to the unindexed thresholds that determine the percentage of benefits to be taxed.

This option would eliminate the current three-tiered tax structure and include 85 percent of Social Security and Railroad Retirement benefits in a recipient's taxable income—regardless of the amount of other income he or she receives. Taxing a flat 85 percent of benefits approximates the way the tax system treats private pensions, as option REV-17-A describes, and would increase revenues by $242.3 billion between 2002 and 2011.

This option would make the tax system more equitable by treating similar taxpayers in the same way. It would eliminate preferences that are now given to Social Security benefits received by low- and middle-income taxpayers but not given to private pension benefits received by people in the same income categories. It would also make the tax treatment of elderly taxpayers more like the treatment of nonelderly people with comparable income. Furthermore, this option would impose no administrative burden on the Social Security Administration and would make preparing tax returns substantially simpler. It would also eliminate the deterrent to saving for retirement faced by some workers under the three-tiered tax structure. Specifically, if part of their benefits fall above the taxable-income thresholds, they will pay a higher marginal tax rate on their income from savings. For example, an additional dollar of interest income not only incurs income tax but also makes another 50 cents or 85 cents of Social Security benefits subject to taxation.

The positive features of the option, however, are offset by certain drawbacks. One such disadvantage is that under this option, the treatment of Social Security benefits remains slightly preferential in comparison with that of private pension benefits. Another drawback is that the option would increase the number of elderly people who would have to file tax returns. Under current law, 61 percent of households receiving Social Security must file; this option would increase that proportion to 77 percent in 2002. Retirees might also feel that increasing taxes on benefits violates the implicit promises of the Social Security and Railroad Retirement programs.

Alternative formulas for taxing benefits would maintain a tiered structure but increase the taxable percentage in one of the lower tiers. For example, if the taxable percentage of benefits in the lowest tier was raised from zero to 50 percent, revenues over the 10-year period would increase by $115.9 billion, and the percentage of households that owed taxes would rise to 66 percent. If the lowest tier was left at zero but the middle tier was increased to 85 percent, revenues would rise by $72.8 billion and very few additional recipients would have to pay tax.

REV-18 Include Investment Income from Life Insurance and Annuities in Taxable Income

	Added Revenues (Billions of dollars)
2002	11.4
2003	23.2
2004	23.8
2005	24.5
2006	25.2
2002-2006	108.1
2002-2011	245.3

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-13

Life insurance policies and annuities often combine features of both insurance and tax-favored savings accounts. (An annuity is a contract with an insurance company under which a person pays a single premium, or a series of premiums, and the company provides a fixed or variable payment to that person at some future time, usually during retirement.) The investment income from the money paid into life insurance policies and annuities, sometimes called inside buildup, is not taxed until it is paid out to the policyholder. If it is left to the policyholder's estate or used to pay for life insurance (in the case, for example, of whole-life policies), it can escape taxation entirely. The tax treatment of inside buildup is similar to the taxation of capital gains.

Under this option, life insurance companies would notify policyholders annually—just as mutual funds do now—of the investment income realized on their account, and people would include those amounts in their taxable income. As a result, disbursements from life insurance policies and benefits from annuities would no longer be taxable as they were paid. Making the investment income taxable as it is realized would raise $245 billion in 2002 through 2011 and make its tax treatment equal to that of income from a bank account, taxable bond, or mutual fund. Tax on the investment income from annuities purchased as part of a qualified pension plan or qualified individual retirement account would still be deferred until benefits were paid.

Deferring taxes on the investment income from life insurance policies creates a tax incentive to purchase life insurance, which may or may not be useful. That kind of encouragement is desirable if people systematically underestimate the financial hardship that their death would impose on spouses and families. Such shortsightedness could cause them to buy too little life insurance. Similarly, it might cause people to buy too little annuity insurance to protect them against outliving their assets. To be useful, the incentive must also induce people to purchase significantly more insurance and annuity coverage, but it is not currently known by how much the incentive might increase that coverage. Provided that the incentive is, indeed, useful, a better approach might be to subsidize life insurance directly by giving people a tax credit for their insurance premiums or allowing them to take a partial deduction. Annuities already receive other tax subsidies through the special tax treatment of pensions and retirement savings.

The tax code's favorable treatment, or "preference," given to inside buildup in life insurance policies and annuities has an uncertain effect on saving. It may encourage saving because it increases people's income when they are older for each dollar they save when they are younger. It might, however, also reduce saving because it enables people to save less when they are younger without reducing the income they can expect when they are older.

REV-19 Include an Income-Related Portion of the Insurance Value of Medicare Benefits in Taxable Income

	Added Revenues (Billions of dollars)		
	Tax HI Only	Tax SMI Only	Tax Both
2002	3.3	2.1	5.6
2003	8.6	5.6	14.6
2004	9.4	6.3	16.2
2005	10.4	7.1	18.0
2005	11.6	8.0	20.0
2002-2006	43.3	29.1	74.4
2002-2011	119.9	83.7	209.0

SOURCE: Joint Committee on Taxation.

NOTE: HI = Hospital Insurance; SMI = Supplementary Medical Insurance.

RELATED OPTIONS:

REV-17-A, REV-17-B, 570-18, 570-19-A, and 570-19-B

RELATED CBO PUBLICATION:

Reducing Entitlement Spending (Study), September 1994.

Even though Social Security benefits are at least partially taxable under current law (see options REV-17-A and REV-17-B), Medicare benefits are not. For taxpayers whose income exceeds certain thresholds, this option would tax portions of the insurance value of Medicare Hospital Insurance (HI) and Supplementary Medical Insurance (SMI) by including them in adjusted gross income, or AGI. The insurance value of Medicare benefits, which does not depend on the services a recipient uses, is essentially the subsidy that the government would pay for each participant if Medicare were handled by a private insurance company.

Specifically, under this option, if a taxpayer's combined income (AGI plus nontaxable interest income plus one-half of Social Security, Railroad Retirement, and Medicare benefits) exceeded $34,000 ($44,000 for joint returns), 85 percent of the insurance value of HI and 75 percent of the value of SMI would be subject to taxation. (Those percentages roughly represent the share of the program's costs that are not paid for by recipients through either payroll taxes during their working years or SMI premiums.) For taxpayers with combined income below that threshold but above $25,000 ($32,000 for joint returns), 50 percent of the insurance value of both HI and SMI would be subject to taxation. This option would not affect taxpayers with income below $25,000 ($32,000 for joint returns). The thresholds, however, would not be indexed for inflation. Thus, as incomes rose over time, an ever-larger fraction of Medicare insurance benefits would become taxable.

From 2002 through 2011, taxing HI benefits alone would increase federal revenues by $119.9 billion, and taxing only SMI benefits would yield $83.7 billion. Imposing both taxes simultaneously would raise revenues by about $209 billion over 10 years. The combined tax would generate more revenues than the sum of the two taxes because some taxpayers would face higher rates as their AGI increased. Combining HI and SMI taxes would also push more enrollees above the income thresholds.

An alternative option would forgo income thresholds and tax 85 percent of the insurance value of HI benefits and 75 percent of the insurance value of SMI benefits for all recipients. With no income thresholds, the HI and SMI taxes would raise $318.9 billion over the 2002-2011 period.

Subjecting some portion of Medicare benefits to taxation could have several positive effects beyond increasing revenues. A tax on SMI benefits would shift some of that program's costs from taxpayers to enrollees. Administering this option would be straightforward because a mechanism is already in place for taxing Social Security benefits. In addition, as a counterbalance to concerns about the option's effects on lower-income enrollees, the use of income thresholds would be a plus since it would leave those enrollees unaffected. In fact, because many Medicare enrollees do not have to pay income taxes, this approach would affect only about 35 percent of them in 2002.

There are also arguments against this option, however. The tax would apply to in-kind benefits rather than cash income. As a result, some enrollees might contend that the additional taxable amounts do not represent cash with which to pay the taxes that might apply to them.

REV-20 Raise the Age Limit from 14 to 18 for Taxing Investment Income Under the Kiddie Tax

	Added Revenues (Billions of dollars)
2002	a
2003	0.1
2004	0.1
2005	0.2
2006	0.2
2002-2006	0.6
2002-2011	1.9

SOURCE: Joint Committee on Taxation.

a. Less than $50 million.

Under current law, investment income in excess of specified limits that is received by a dependent child under age 14 is taxed at the parents' marginal rate (the rate of tax on the last dollar earned). In 1999, the applicable limit on such income was $1,400. The provision—often referred to as the kiddie tax—is intended to restrict parents' ability to reduce the income tax on their investment income by transferring ownership of income-producing assets to their young children. It does not, however, preclude parents from cutting their tax bills by giving such assets to children older than 13. Under current law, income from assets in the name of a child over age 13 is taxed at the child's rate, which is generally 15 percent, rather than at the parents' rate, which can be as high as 39.6 percent. On annual income from assets that totals $10,000, for example, the difference in rates can cut the family's tax bill from $3,960 to $1,500, or by more than 60 percent.

This option would raise the age limit—from 14 to 18—below which a child's income from investments is taxed at the parents' rates. The option would increase income tax revenues by $2 billion over the 2002-2011 period.

Extending the kiddie tax to older children would help prevent parents from sheltering assets to reduce the taxes they have to pay. But the assets of older children may be their own. An older child may have earned and saved a substantial amount of money or may have received sizable gifts. In that case, it is reasonable to tax the income from those assets at the child's rate rather than the parents'. Indeed, imposing the parents' higher rate could discourage teenagers from saving earnings or gifts.

REV-21 Lower the Limits on Contributions to Qualified Pension Plans

	Added Revenues (Billions of dollars)
2002	1.4
2003	2.6
2004	2.7
2005	2.7
2006	2.7
2002-2006	12.2
2002-2011	27.4

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-11, REV-12, REV-13, REV-14, and REV-15

Employer-sponsored pension plans qualify for favorable tax treatment under current law. Employers can deduct their contributions to the plans from their taxable income. Employees receive a benefit as well: they do not have to declare the contributions as current income. Furthermore, the plans' investment earnings are tax-exempt. Taxes are paid only when pension recipients declare their benefits as income, normally in retirement. The tax code treats employees' contributions through 401(k) and related plans similarly. Deferring taxes allows investment earnings to accumulate faster; also, if people are in lower tax brackets when they retire, they pay lower taxes than they would have when the contributions were made and the earnings accrued.

However, the tax code limits the amounts that can be saved depending on the type of plan that employers offer. *Defined contribution plans* specify how much an employer will contribute—for example, 5 percent of pay—toward each employee's retirement. The pension that is paid depends on how much accumulates in that employee's retirement fund by the time he or she retires. Current law limits annual plan contributions to the lesser of 25 percent of compensation or $35,000 in 2001. In contrast, *defined benefit plans* specify how much employees will receive when they retire (for example, 1 percent of their final pay for each year of service). Employers adjust their annual retirement contributions to accumulate enough money to pay the promised pension by the time the employee retires. Current law limits pensions that begin at age 65 to no more than 100 percent of the worker's preretirement wages or a fixed amount ($140,000 in 2001), whichever is less. (The tax code reduces that limit on an actuarial basis for pensions that begin at an earlier age.) In addition to the limits it imposes on employers' contributions, the tax code restricts the amount that employees may contribute to plans with 401(k) and related arrangements. In 2001, the limit on such contributions is $10,500. When a firm sponsors both types of plans, the employer can deduct no more than 25 percent of the current compensation paid to employees covered by the plans.

This option would lower the limit on annual contributions to defined benefit plans from the current $140,000 to the Social Security wage base ($80,400 in 2001). It would also make proportionate reductions in the limits for defined contribution plans and employee contributions to plans with 401(k) and related arrangements. Those reductions would raise $27.4 billion in revenues from 2002 through 2011.

The main argument for reducing those limits is that the current restrictions allow employers to fund pensions that are much bigger than the preretirement earnings of most workers. Only 2 percent of full-time, full-year workers in 1998 earned more than $140,000 (the limit on employer-funded pensions). Workers who accrue pensions that large are unlikely to need the full tax advantage of the deferral to provide adequately for their retirement. Limiting funding to the Social Security wage base would still allow pensions greater than the earnings of 90 percent of all full-time, year-round U.S. workers.

Arguing against this option is the likelihood that decreasing the limits on pension contributions would reduce participation in retirement plans. Pension plans would become less attractive to high-income business owners and managers and thus they might sponsor fewer of them for both themselves and their employees. A substantial fraction of workers reach the age of retirement with few financial assets and only limited pensions. And workers may need such pensions even more in the future with Social Security facing long-term budgetary pressures. Moreover, economic theory suggests that treating all saving the way the tax code treats pension contributions would allow people to make better choices about their saving and their consumption. In recognition of those factors, the House of Representatives and the Senate Finance Committee approved legislation in 2000 that would raise the limits on pension contributions.

REV-22 Eliminate the Preferential Tax Treatment Afforded to Benefactors and Beneficiaries of Qualified State Tuition Programs

	Added Revenues (Billions of dollars)
2002	0.1
2003	0.1
2004	0.1
2005	0.2
2006	0.2
2002-2006	0.7
2002-2011	1.7

SOURCE: Joint Committee on Taxation.

The Small Business Job Protection Act of 1996 provided tax relief (among other things) that inspired states to create tuition programs for funding post-secondary education. Such programs allow benefactors to contribute to a savings account established to pay future expenses for higher education. The law considers those contributions to be gifts to the beneficiary; it treats earnings from the account as income to the student (and thus taxable) when he or she uses the funds to pay for educational expenses that qualify under the program's rules. Taxes on the earnings are thus deferred; when paid, the rate of tax is the (generally) lower rate of the student.

Under this option, the benefactor would remain the owner of the tuition funds and of any earnings on them. The earnings would thus be taxed as income to the benefactor when the funds were withdrawn and used for qualified educational expenses. The funds themselves would be treated as gifts to the beneficiary. Over the 2002-2011 period, this option would increase revenues by $1.7 billion.

Although some state tuition programs existed before the 1996 act, the law encouraged states that already had programs to establish more and states that had no programs to begin them. Currently, more than 40 states have tuition programs, and those states that do not are considering establishing them. The programs vary in complexity, in the types of expenditures they permit, and in how they are treated under the state's income tax rules.

Proponents of this option argue that changing the existing tax provisions would improve both efficiency (how the provisions affect economic activity and growth) and equity (fairness). In general, tuition accounts encourage benefactors to adjust their portfolios and savings plans solely to reduce their taxes rather than to increase the amount that they save. And for the most part, only families with higher incomes benefit from this tax relief. Lower-income families probably gain little because they have few extra funds to invest for future education needs. Moreover, because low-income benefactors and beneficiaries probably face similar marginal tax rates (the rate of tax on the last dollar earned), low-income benefactors are unlikely to see a significant drop in their tax bill. In addition, the tax code prohibits benefactors from using these accounts as, for example, security for loans, so they offer little advantage to lower-income taxpayers who would benefit from more-flexible vehicles for saving.

An argument in favor of treating these accounts as the law currently directs centers on the issue of fairness in taxing capital investments. The tax code treats investments in physical capital more favorably than investments in human capital. (For example, the law allows businesses to accelerate the expenses they claim for depreciating facilities and equipment and allows homeowners to deduct the interest on their home mortgages from their taxable income.) Allowing people to pay tax on the earnings of tuition accounts at beneficiaries' (generally) lower rates helps offset that imbalance.

REV-23 Expand the Medicare Payroll Tax to State and Local Government Employees Not Now Covered

	Added Revenues (Billions of dollars)
2002	1.1
2003	1.4
2004	1.3
2005	1.3
2006	1.2
2002-2006	6.3
2002-2011	10.7

SOURCE: Congressional Budget Office.

Certain groups of employees of state and local governments do not pay the Medicare payroll tax. (All federal employees have been covered since 1983, as required by the Tax Equity and Fiscal Responsibility Act of 1982.) The Consolidated Omnibus Budget Reconciliation Act of 1985 mandated that state and local employees who began work after March 31, 1986, pay Medicare payroll taxes, but it did not make coverage mandatory for people hired before that date. The Omnibus Budget Reconciliation Act of 1990 expanded Medicare tax coverage to include all state and local government employees not covered by any retirement plan.

Expanding the Medicare payroll tax to include all state and local government employees who are not now covered would raise $10.7 billion from 2002 through 2011. The annual gain in revenues would decline gradually as employees who were hired before April 1986 left the payrolls of state and local governments.

Only one out of eight state and local employees is not covered by Medicare through their employment, but most of those workers will still receive Medicare benefits when they retire. Under current law, many state and local employees will qualify for benefits on the basis of other employment in covered jobs or their spouse's employment.

Requiring all state and local employees to pay Medicare payroll taxes could be justified on grounds of fairness. The program's broader coverage would lessen the inequity of the high benefits those employees receive in relation to the payroll taxes they pay. Of course, expanding Medicare coverage to include more state and local employees would somewhat increase the federal government's liability for future benefits under the program. But the additional revenues would probably more than offset the permanent increase in benefits.

REV-24 Calculate Taxable Wages the Same Way for Both Self-Employed People and Employees

	Added Revenues (Billions of dollars)	
	On-Budget	Off-Budget
2002	0.2	0.1
2003	0.2	0.2
2004	0.3	0.2
2005	0.3	0.2
2006	0.3	0.2
2002-2006	1.2	0.9
2002-2011	2.8	2.1

SOURCE: Congressional Budget Office.

Social Security and Medicare taxes come in two forms: the Federal Insurance Contribution Act (FICA) tax paid on wages and the Self-Employment Contribution Act (SECA) tax paid on income from self-employment. Under FICA, employees and employers each pay a Social Security tax of 6.2 percent on wages up to a taxable maximum ($80,400 in 2001) and a Medicare tax of 1.45 percent on all wages. Until 1983, the SECA rate was explicitly set lower than the combined employer and employee rate under FICA. As part of the Social Security Amendments of 1983, the Congress increased the effective SECA rates starting in 1984. The conference committee said that the law was "designed to achieve parity between employees and the self-employed" beginning in 1990.

Despite the Congress's stated intent, the current method for calculating SECA taxes allows a self-employed taxpayer to pay less tax than a worker with the same nominal income who is not self-employed. For example, an employee earning $50,000 and his or her employer each pay $3,825 in FICA taxes, so that employee's total compensation is $53,825 (the employer's share is considered compensation) and the total FICA tax is $7,650. But if that worker's self-employed sibling also earned total compensation of $53,825, he or she would pay only $7,605 in SECA taxes, $45 less than the employee sibling would pay. The difference arises because the self-employed sibling will have a calculated taxable income base that is lower than that of the employee sibling. Under current law, the income base on which self-employed people calculate their tax equals total compensation less 7.65 percent. Thus, the self-employed sibling pays taxes on $49,707, but the employee sibling pays taxes on $50,000.

Among people with earnings above Social Security's taxable maximum, self-employed workers pay the same amount of Social Security tax that employees pay, but they pay less Medicare tax. For example, an employee earning $100,000 and his or her employer each pay $4,501 in Social Security taxes and $1,450 in Medicare taxes, so that employee's total compensation is $105,951 and the total FICA tax is $11,902. That person's self-employed sibling—with the same total compensation—pays the same maximum Social Security tax but only $2,838 in Medicare taxes, or $62 less. (The self-employed person pays Medicare taxes on $97,846, whereas the employee pays Medicare taxes on $100,000.) High-income, self-employed taxpayers may pay as much as 6.3 percent less in Medicare taxes under SECA than employees with similar total compensation pay under FICA. That difference has existed since 1991, when the Congress first set the taxable maximum for Medicare higher than the taxable maximum for Social Security. Eliminating the difference would require a slight change to Schedule SE (the income tax form for reporting self-employment income), but it would directly affect only a relatively small percentage of self-employed taxpayers—those with income above the taxable maximum.

Changing the formula for calculating SECA taxes would increase on-budget revenues by $2.8 billion from 2002 to 2011. Off-budget SECA revenues, which are deposited in the Social Security trust funds, would increase by $2.1 billion.

REV-25 Subject All Earnings to the Social Security Payroll Tax

	Added Revenues (Billions of dollars)
2002	70.5
2003	97.1
2004	100.9
2005	105.0
2006	110.6
2002-2006	484.2
2002-2011	1,127.5

SOURCE: Congressional Budget Office.

Social Security—composed of the Old-Age, Survivors, and Disability Insurance (OASDI) programs—is financed by a payroll tax on employees, employers, and self-employed people. The receipts from that tax go into trust funds (essentially accounting mechanisms that the government uses to track receipts and spending for programs with specific taxes or other revenues earmarked for their use). Only earnings up to a specified maximum amount are taxed, although that amount automatically increases each year. (In 2001, the maximum amount of earnings taxed under Social Security is $80,400.) This option would make all earnings subject to the payroll tax, generating about $1.1 trillion in receipts from 2002 through 2011. Some of those revenues, however, would be offset by the additional retirement benefits Social Security would pay to people with income above the current law's maximum taxable amount.

When Social Security began in 1937, about 92 percent of the earnings from jobs covered by the program were below the maximum taxable amount. That percentage gradually declined over time because the maximum rose only occasionally, when the Congress enacted specific increases to it. In the 1977 amendments to the Social Security Act, the Congress intentionally boosted the earnings base: it raised the percentage of covered earnings subject to the tax to 90 percent by 1982 and automatically increased the ceiling each year thereafter by the growth in average wages. Despite that indexing, the fraction of taxable earnings has slipped over the past decade as a result of faster-than-average increases in the earnings of the highest-paid workers. In 1999, approximately 84 percent of earnings from employment covered by OASDI fell below the maximum.

Subjecting all earnings to the payroll tax, proponents of this option argue, would have several positive effects—for example, improving the solvency of the OASDI trust funds. Proponents also contend that the option would increase the progressivity of the payroll tax. Because people who have income above the ceiling do not pay the tax on all of their earnings, they pay a lower share of their total income in payroll taxes than do people whose total earnings fall below the maximum. Making all earnings taxable would raise payroll taxes for high-income earners, making the tax more progressive. Although that change would also entitle people with earnings above the old maximum to higher Social Security payments when they retired, the additional benefits would be small relative to the additional taxes those earners would have to pay.

Opponents of this option argue that it would weaken work incentives. In particular, it would reduce the additional rewards from working that people whose earnings are above the maximum now receive, because those earnings would become subject to the payroll tax. As a result, such workers would have an incentive to work less or to take more compensation in the form of fringe benefits that were not subject to payroll taxes. In the longer run, opponents contend, the option might also reduce the incentives workers have to invest in skills and education that generally lead to higher wages.

REV-26 Eliminate the Source Rules Exception for Inventory Sales

	Added Revenues (Billions of dollars)
2002	1.7
2003	3.6
2004	3.8
2005	4.1
2006	4.4
2002-2006	17.6
2002-2011	45.1

SOURCE: Joint Committee on Taxation.

RELATED CBO PUBLICATION:

Causes and Consequences of the Trade Deficit: An Overview (Memorandum), March 2000.

U.S. multinational corporations generally pay U.S. tax on their worldwide income, including the income they earn from operations of their branches or subsidiaries in other nations. Foreign nations also tax the income from those operations, and the U.S. tax code allows multinational firms to take a limited credit for that foreign income tax. The credit is applied against what the firms would have owed in U.S. taxes on that income, but it cannot exceed what they would have owed in the United States. If a corporation pays more foreign tax on the foreign income than it would have paid on otherwise identical domestic income, it accrues what the tax code calls excess foreign tax credits.

In contrast to income generated by operations abroad, the income corporations earn from products sold abroad but produced domestically results almost entirely from value created or added in the United States. Hence, the income U.S. firms receive from exports is typically not taxed by foreign nations. But the tax code's "title passage" rule specifies that the source of a gain on the sale of inventory is the place to which the legal title to the inventory "passes." If a firm exports its inventory abroad, the title passage rule allocates the income from those sales in a way that, in effect, sources half of it to the jurisdiction in which the sale takes place and half to the place of manufacture. In practice, that means that if the firm's inventory is manufactured in the United States and sold abroad, half the income from the sale is still treated as though it were foreign in source—even though the firm may have no branch or subsidiary located there and the foreign jurisdiction does not tax it.

The upshot of this rule is that a firm can classify more of its income from exports as foreign in source than could be justified solely on the basis of where the underlying economic activity occurred. A multinational firm with excess foreign tax credits can then use those credits to offset U.S. taxes on that foreign income. As a result, about half of the export income received by companies with such credits is effectively exempted from U.S. tax, and the income allocation rules essentially subsidize the U.S.-made products of some multinational corporations.

This option would replace the title passage rule with one that apportioned income on the basis of where a firm's economic activity actually occurred. The change would increase revenues by $1.7 billion in 2002 and $45.1 billion over the 2002-2011 period.

Export subsidies, such as those embodied in the title passage rule, do not boost overall levels of domestic investment and employment, nor do they affect the trade balance. They increase profits—and thus investment and employment—in industries that sell substantial amounts of their products abroad. But the U.S. dollar appreciates as a consequence, making foreign goods cheaper and thereby reducing profits, investment, and employment in U.S. firms that compete with imports. Export subsidies, therefore, like most subsidies, distort the allocation of resources so that the prices of the goods they affect no longer reflect the goods' production costs (either domestically or abroad).

Opponents of eliminating the title passage rule point to a perceived need to provide U.S. corporations with an advantage over foreign corporations operating in the same markets. However, corporations without excess foreign tax credits receive no advantage. Thus, the rule gives U.S. multinational exporters a competitive advantage over U.S. exporters that conduct all of their business operations domestically (and it gives U.S. multinational exporters that have excess foreign tax credits an advantage over those that do not).

Last, foreign tax credits granted under U.S. tax law were intended to prevent business income from being taxed both domestically and abroad. But the title passage rule allows export income that is not usually subject to foreign tax to be exempted from U.S. taxes as well—which means that the income escapes business taxation altogether. Hence, allowing multinational corporations to use foreign tax credits to offset the U.S. taxes they would otherwise owe on export income may be an inappropriate use of such credits.

REV-27 Make Foreign Subnational Taxes Deductible Rather Than Creditable

	Added Revenues (Billions of dollars)
2002	2.6
2003	5.5
2004	5.7
2005	6.0
2006	6.3
2002-2006	26.1
2002-2011	62.1

SOURCE: Joint Committee on Taxation.

RELATED CBO PUBLICATION:

Causes and Consequences of the Trade Deficit: An Overview (Memorandum), March 2000.

Under current law, U.S.-owned corporations deduct U.S. state and local income taxes from their taxable income. However, they receive tax credits—which provide more tax benefits than deductions—for income taxes that they pay to foreign governments, including foreign subnational governments such as foreign states, cities, and provinces. This option would treat income tax payments to foreign subnational governments on a par with payments to domestic state and local governments. That change would increase tax revenues by $2.6 billion in 2002 and $62.1 billion over the 2002-2011 period.

Specifically, this option would continue to allow corporations to receive a credit for foreign taxes provided those taxes exceeded a fixed percentage of either their foreign-source income or their foreign income taxes. That percentage would be set to reflect the overall ratio of state and local to federal income taxes within the United States. Taxes for which credits were denied would be deducted from a corporation's foreign-source gross income to yield its foreign-source taxable income. If policymakers chose to enact this option, they could structure it to either defer to or override existing tax treaties between the United States and foreign governments that call for other kinds of tax treatment.

Proponents of this option would probably argue that its main benefit would be to level the playing field between domestic and foreign investment. The option would accomplish that by reducing the slight incentive that U.S.-based multinational corporations now have to invest more abroad than at home, particularly in countries where the overall level of foreign income tax on a foreign investment is lower than the combined U.S. federal, state, and local taxes on a domestic investment. In turn, equalizing the tax treatment of foreign and domestic investment would allocate capital more efficiently worldwide.

In some cases, however, removing the creditability of income taxes paid to foreign subnational governments would have drawbacks. The option would make U.S. corporations operating in a foreign country less competitive with other foreign companies operating there and would probably lead some firms to repatriate less income from prior overseas investments to avoid paying the additional U.S. tax. Furthermore, if foreign countries implemented similar rules for taxing income that their corporations earned in the United States, those firms might curtail their U.S. investments, and the amount of capital flowing into the United States might decline.

REV-28-A Include Accrued Capital Gains in the Last Income Tax Return of Decedents

	Added Revenues (Billions of dollars)
2002	a
2003	11.6
2004	11.1
2005	10.6
2006	10.1
2002-2006	43.4
2002-2011	86.4

SOURCE: Joint Committee on Taxation.

a. Less than $50 million.

RELATED OPTIONS:

REV-04, REV-28-B, and REV-29

A capital gain or loss is the difference between the current value of a capital asset (such as corporate stock or a private business) and the owner's basis. The owner's basis is the initial cost of the asset plus the cost of any subsequent improvements and minus any deductions for depreciation. When capital assets are sold, tax law normally requires that the owners include in their taxable income any gains that they have realized on those assets minus any losses. If their gains do not exceed their losses, owners may deduct up to $3,000 of their net losses from other income.

An exception occurs when an owner holds an asset until death. In that case, tax law allows the inheritor to "step up" the basis to the asset's value on the date of the owner's death. That means that when the asset is sold, the inheritor pays income tax only on the gain that accrued after the owner's death; the gain that accrued before death is permanently excluded from taxable income. The estate of the decedent may pay taxes under the separate estate tax, but that tax applies equally to assets on which the decedent previously paid income tax and assets with accrued capital gains that escaped income taxation.

This option would tax accrued but unrealized gains on the final income tax return of a decedent, raising $86.4 billion from 2002 through 2011. That estimated increase in revenues assumes that the unified estate and gift tax continues in its current form and that any legislation to implement this option would include provisions for easing compliance and valuing assets. For example, to allow for inadequate recordkeeping by decedents on an asset's basis, the option would initially allow estates to set the basis of an asset at half of its current value. Provisions for valuing farms and small businesses could be adapted from the estate tax. Under this option, about 10 percent of decedents would owe taxes on accrued gains on their final return. (Canada has had a similar tax in place since 1972 but imposes no estate tax.)

Stepping up basis at death provides a tax break for capital gains that is not available for other income such as wages or interest. That tax advantage encourages people to hold assets until death, when they might have preferred to sell them earlier. Furthermore, stepping up basis at death has spawned many tax-sheltering schemes in which, for example, people borrow against their assets for current consumption but have the loan paid off by selling the assets after they die.

A disadvantage of taxing capital gains at death is that the tax might force the decedent's family to sell assets to pay the tax, which could substantially reduce the assets' value if the time was not optimal for such a sale. Forcing heirs to sell a family farm or business would impose a particular hardship on families wanting to continue the enterprise. Another disadvantage of taxing gains at death is that the decedent may have inadequately documented the asset's basis.

REV-28-B Enact Carryover Basis for Capital Gains Held Until Death

	Added Revenues (Billions of dollars)
2002	a
2003	1.2
2004	2.2
2005	3.4
2006	4.7
2002-2006	11.5
2002-2011	52.5

SOURCE: Joint Committee on Taxation.

a. Less than $50 million.

RELATED OPTIONS:

REV-04, REV-28-A, and REV-29

Carrying over a decedent's basis in an asset (known as carryover basis) is an alternative to requiring that any capital gains accrued on an asset held at the time of a person's death be included on the decedent's last income tax return (see option REV-28-A). Under this option, heirs would adopt the basis of the decedent on assets they inherited, and the decedent's capital gains would then be taxed when the heirs sold the assets. The option would raise $52.5 billion from 2002 through 2011, assuming that the estate and gift tax continued in its current form and that provisions were enacted to make it easier to value an asset and comply with the option. For example, to allow for a decedent's inadequate recordkeeping on an asset's basis, the option would initially allow heirs to set the basis of an inherited asset at 50 percent of the asset's value at the time they inherit it. Valuation provisions could follow those already used under the estate tax.

Using the carryover basis of an asset would avoid a major disadvantage of taxing gains on a decedent's final income tax return: the heirs would not be faced with a large tax bill that could force them to sell assets at an inopportune time. Carryover basis could also ease the way for a family seeking to continue to operate a decedent's business. But it would not resolve the problem of inadequate recordkeeping by a decedent, except to the extent that the 50 percent rule suggested above would provide a certain rough justice.

This option would achieve some of the objectives of option REV-28-A, which calls for taxing gains on the decedent's final tax return. This option would eventually tax most gains held at death, removing some of the inequity inherent in never taxing them. It would also encourage people to sell assets at opportune times instead of holding them, for tax purposes, until death. In addition, carryover basis would lessen the advantages of tax shelters that give people access to their investment funds before death without selling the asset outright until after it. Despite what it could accomplish, however, carryover basis would achieve less than would taxing gains at death, because it would still defer taxes for heirs who could afford to postpone selling inherited assets with large capital gains.

Although gains held until death have always been exempt from income tax, the Congress has twice enacted carryover basis. The Tax Reform Act of 1976 would have introduced it, but subsequent legislation postponed and then repealed it. The primary objection heard at the time of repeal was that recordkeeping by many owners of assets would be inadequate for their heirs to document basis. In 2000, the Congress enacted carryover basis in conjunction with repealing the estate tax. The new approach was to take effect in 2010, but the President vetoed the act. The legislation would have allowed basis to be stepped up for $1.3 million of assets passed to any heirs and $3 million passed to a spouse. (REV-28-A discusses stepping up basis.)

REV-29 Eliminate Like-Kind Exchanges

	Added Revenues (Billions of dollars)
2002	0.2
2003	1.1
2004	1.1
2005	1.2
2006	1.2
2002-2006	4.8
2002-2011	11.7

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-04, REV-28-A, and REV-28-B

The tax code requires that people who sell or exchange capital assets report any capital gain or loss as part of their taxable income. An exception is exchanges of certain similar assets, mainly real estate. The tax code recognizes no gain or loss if property held for productive use in a trade or business or for investment is exchanged for property of a "like kind" that is to be held for the same reasons. In those exchanges, people carry over to the new property any gain that has accrued on the old asset, and they do not pay tax on that gain until the new property is sold. Like-kind real estate assets are broadly defined as any properties located in the United States.

In some exchanges, two owners swap like-kind property, but in many instances, a single owner sells one property to a second party and purchases a replacement property from a third. For those transactions to qualify as like-kind exchanges, the proceeds from the sale of the original property must be held outside the seller's control—for example, by a qualified intermediary—and used to purchase the replacement property. In addition, the like-kind replacement property must be identified within 45 days and purchased within 180 days.

By deferring taxation, the tax code treats capital gains from like-kind exchanges more favorably than gains made in trading many other assets. Any gain from selling one stock to purchase another, for example, or from selling a share in one partnership to purchase another is taxable in the year of the exchange. Gains from trades of bonds, mortgages, and other debt instruments are similarly taxed. Eliminating the deferral for like-kind exchanges would make the tax system more equitable and raise $11.7 billion from 2002 to 2011.

An argument that is sometimes used to justify continuing like-kind exchanges is that the new property is a continuation of the same investment as the previous one and no tax should be levied until the owner leaves that line of investing. Also, when owners simply swap property, without cash changing hands, no money becomes available for paying the tax. Furthermore, allowing like-kind exchanges helps property owners respond more easily to changing conditions in their lives or in property markets. But those justifications apply as well to many exchanges of stocks, bonds, and partnership shares and therefore do not support treating real estate and certain other exchanges differently from exchanges of assets such as stocks and bonds. One reason for either continuing the current differential treatment or phasing it out slowly is that many investors purchased property with the understanding that they would be able to exchange it for other property without paying capital gains taxes. Changing the tax treatment abruptly would impose hardships on some investors and could depress property prices. Finally, like-kind exchanges are not the only such transactions that receive deferrals: the tax code permits some tax-deferred swaps of corporate equities, such as those that take place in business mergers.

In the past, the Congress has considered limiting the amount of gain that owners can defer under like-kind exchanges of real property. Proposals have also been made to defer gains only on exchanges of properties that are related or similar in service or use. Although that stricter standard already applies to gains on certain involuntary conversions, applying it on a broader scale would be difficult.

REV-30 Include Life Insurance Proceeds in the Base for Estate Taxes

	Added Revenues (Billions of dollars)
2002	0
2003	0.5
2004	0.5
2005	0.5
2006	0.5
2002-2006	2.0
2002-2011	4.9

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-31

The tax code includes a gift tax that is levied on transfers of wealth during a taxpayer's lifetime and an estate tax imposed on such transfers when a person dies. The two taxes together constitute a unified, progressive tax, combining the taxation of assets given away during a person's life and his or her bequests made at death. Credits built into the system have always excluded most of those transfers from taxation, so that less than 2 percent of deaths result in an estate tax filing. The Taxpayer Relief Act of 1997 increased the unified credit for the first time since the late 1980s to prevent the number of estates subject to tax from rising and to lower the taxes paid by taxable estates.

One method for transferring wealth gets preferential treatment under the estate tax: payouts on life insurance policies are not counted as transferred wealth if the owner of the policy is not the decedent. (The U.S. tax code and regulations of the Internal Revenue Service define the owner of a life insurance policy.) Thus, one important element of estate tax planning during a wealthy taxpayer's lifetime is to make the payments on life insurance policies, with the intended heirs as the beneficiaries, directly or through trust arrangements. The premiums are not taxed as gifts as long as they total less than \$10,000—the amount that each donor can give to each recipient annually without incurring tax on the gift. This option would include the proceeds from life insurance policies in the base on which estate taxes are calculated, raising about \$4.9 billion between 2002 and 2011.

The way the tax code treats proceeds from life insurance has varied over the years. The modern estate and gift tax system was put into place in 1916. Legislation enacted in 1918 included life insurance proceeds in the base for figuring estate taxes; the act covered proceeds from policies owned by the decedent and payouts in excess of \$40,000 from policies owned by others. In 1942, all proceeds from policies owned by the decedent or for which the decedent paid the premiums were made taxable. But in 1954, the Congress dropped the "premiums paid" test, leading to the current system in which only policies owned by the decedent are included in the estate tax base.

That system offers a significant tax benefit to the insured taxpayer during his or her lifetime if the policy provides whole-life rather than term insurance. The initial payment of premiums does not affect the donor's tax liability because those amounts can be transferred tax-free, for any reason, under the annual \$10,000 exclusion. The real benefit comes later, as premiums invested in whole-life plans earn interest and dividends that are not subject to income tax.

Another benefit gained by excluding life insurance from the base for estate taxes is that it lowers the cost of transferring wealth when assets are not liquid. For example, the owner of a closely held business (typically, a small business or farm with only one or a few owners) can acquire life insurance to "prepay" the estate tax that will be liable on the business; in that way, the heirs can avoid having to sell the business to pay the taxes. This option would increase the cost of that practice.

REV-31 Eliminate Nonbusiness Valuation Discounts Under the Estate Tax

	Added Revenues (Billions of dollars)
2002	0
2003	0.7
2004	0.7
2005	0.7
2006	0.8
2002-2006	2.9
2002-2011	7.6

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-30

Current law imposes a gift tax on transfers of wealth during a taxpayer's lifetime and an estate tax on such transfers at death (see option REV-30 for more details). To reduce gift tax liabilities, some taxpayers use an accounting practice that artificially reduces the value of the taxable estate by transferring marketable securities, such as stocks and bonds, to holding companies, which then issue shares (claims to the securities) to the taxpayer's intended heirs. The transferred assets are still taxable when the time comes to compute the taxable estate. But in many instances, those assets are not taxed at their full value. Instead, they are discounted under a common practice applied to minority holdings in businesses that are not publicly traded. (Basically, minority holdings are those representing less than a 50 percent interest.)

The practice of discounting derives from the goal of the estate tax system that seeks to tax only the value of a business's asset that a buyer would be willing to pay. Advocates of discounting justify it on the grounds that a buyer who purchased a minority share in an ongoing business operation would generally pay less than the market value for it because the shareholder or shareholders who had a majority share could adversely affect the long-term value of the minority owner's share. (For example, if the majority owners were also officers of the company, they could, in theory, make decisions that would increase their income at the expense of minority owners' income.)

The use of such a practice for nonbusiness assets, however, is difficult to defend on the same basis. In nonbusiness situations, a taxpayer typically contributes marketable assets (such as cash, foreign currency, publicly traded securities, real property, annuities, or non-income-producing property including art or collectibles) to a family limited partnership or limited liability company and simultaneously gives or bequeaths minority interests in that holding company to his or her intended heirs. The taxpayer then claims discounts on those gifts, using the guidelines generally agreed on for transferring business assets. In short, the taxpayer claims a reduced value for the marketable asset simply because it was placed in a holding company before being given or bequeathed.

This option would restrict the practice of valuation discounts to active businesses, raising revenues by $7.6 billion over the 2002-2011 period. For holdings in a nonbusiness entity, the specific option would require that their value be determined as a proportional share of the fair market value of the entity's net worth (provided that its net worth included assets that were readily marketable when given or bequeathed). If the entity was part of an active business, that portion of its net worth that was held in marketable securities and used as working capital would be subject to the usual business valuation practices.

REV-32 Eliminate Private-Purpose Tax-Exempt Bonds

	Added Revenues (Billions of dollars)
2002	0.2
2003	0.7
2004	1.1
2005	1.6
2006	2.0
2002-2006	5.6
2002-2011	21.0

SOURCE: Joint Committee on Taxation.

Tax law permits state and local governments to issue bonds whose interest income is exempt from federal taxation—which allows those bonds to bear lower interest rates than taxable bonds. (The exemption essentially provides a subsidy to those governments by lowering the amount of interest they must pay to borrow the money.) For the most part, the bonds' proceeds finance public investments such as schools, highways, and water and sewer systems. But state and local governments also issue tax-exempt securities known as private-purpose bonds, whose proceeds are used by nongovernmental entities to finance quasi-public facilities and private-sector projects that include mortgages for rental housing and single-family homes; facilities such as airports, docks, wharves, mass transit, and solid waste disposal; small manufacturing facilities and agricultural land and property for first-time farmers; student loans; and facilities for nonprofit institutions, such as hospitals and universities.

The Congress has restricted tax-exempt financing for private purposes on several occasions, beginning in 1968. In the Tax Reform Act of 1986, legislators made the interest earned on newly issued private-purpose bonds taxable by including it in the base for the alternative minimum tax. In addition, they placed a limit on the volume of new bond issues by all governmental units within a state for exempt facilities, small manufacturing facilities, student loans, and housing and redevelopment. The current cap on state volume is the greater of $50 per resident or $150 million per calendar year. The limit in 2003 will be the greater of $55 per capita or $165 million; it will rise in increments of $5 and $15 million, reaching $75 per capita or $225 million in 2007. Bonds for some private activities are exempt from the limits; among such activities are airports, ports, and solid waste disposal facilities that meet requirements for government ownership, and certain bonds for nonprofit 501(c)(3) organizations (primarily hospitals and educational institutions).

This option would eliminate the tax exemption for all new issues of private-purpose bonds, increasing revenues by about $21 billion over the 2002-2011 period. That change would force the projects that would otherwise be financed with such bonds to borrow at the private market rate. Provided that most of the projects' benefits accrued to private individuals, the change in financing would allocate resources more efficiently.

Although private-purpose bonds subsidize activities that may merit federal support, tax-exempt financing is not the most efficient way to provide such help. With tax-exempt financing, the borrower (in this case, the nongovernmental entity) shares the benefit with investors in the bonds; with a direct subsidy, the benefit would go entirely to the borrower. Another drawback to tax-exempt financing is that, unlike a budget outlay, it does not receive regular scrutiny by policymakers in the annual budget process.

Rather than eliminating the tax exemption for private-purpose bonds, policymakers could control their volume. An alternative option would limit the volume of all bonds for private nonprofit and quasi-public facilities and eliminate the increases in the volume cap that are scheduled to begin in 2003. Those changes would boost revenues by $11.8 billion in 2002 through 2011; they would also curb the growth of all private-purpose bonds without sharply reducing their use. The curb would primarily affect bond issues for nonprofit organizations, which are not included under the current cap. The option would also apply to bonds for airport facilities, such as departure gates, that are for the exclusive private use of airlines under long-term leases. However, the option would continue to allow unlimited tax-exempt financing of facilities such as runways and control towers at government-owned airports.

REV-33 Reduce Tax Credits for Rehabilitating Buildings and Repeal the Credit for Nonhistoric Structures

	Added Revenues (Billions of dollars)
2002	0.2
2003	0.2
2004	0.2
2005	0.2
2006	0.2
2002-2006	1.0
2002-2011	2.0

SOURCE: Joint Committee on Taxation.

The Congress has enacted tax credits for rehabilitation to induce people to preserve historic buildings, prompt businesses to renovate their existing premises rather than relocate, and encourage investors to refurbish older buildings. The credit is 10 percent of expenditures on commercial buildings built before 1936 and 20 percent of expenditures on commercial and residential buildings that the Department of the Interior has certified as historic structures because of their architectural significance. This option would reduce the credit for historic structures to 15 percent and repeal the credit for nonhistoric structures, which would increase revenues over the 2002-2011 period by about $2 billion. Repealing both credits would raise about $4.1 billion over the same period.

Proponents and opponents of this option could mount several arguments to support their positions. On the one hand, proponents might say, the credits favor commercial structures over most rental housing and may therefore distort the allocation of capital. Moreover, in favoring renovation over new construction, the credits may encourage more costly ways of obtaining additional housing and commercial buildings. On the other hand, the option's opponents might contend, rehabilitation may have social benefits when it discourages people from destroying historically noteworthy buildings. The government could promote that objective at a lower cost, however, by permitting a credit only for renovating certified historic buildings and by lowering the credit's rate. Some surveys indicate that a credit of 15 percent would be sufficient to cover the extra costs involved in undertaking a rehabilitation that satisfied regulatory standards for historic preservation.

REV-34-A Tax Credit Unions Like Other Thrift Institutions

	Added Revenues (Billions of dollars)
2002	0.5
2003	0.8
2004	0.8
2005	0.8
2006	0.9
2002-2006	3.8
2002-2011	8.8

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-34-B

Thrift institutions—which include savings and loan associations, mutual savings banks, and credit unions—are financial organizations that primarily accept deposits from and make loans to individuals. Originally, all such institutions were nonprofits—and thus exempt from income taxes—but in 1951, the Congress eliminated the tax exemptions for savings and loans and mutual savings banks because it considered them to be similar to profit-seeking corporations. In contrast, the earnings of credit unions have remained tax-free. This option would tax credit unions like other thrift institutions, raising $8.8 billion from 2002 through 2011.

Credit unions provide many of the same services that other thrift institutions offer, including car loans, direct deposit, access to automatic tellers, preauthorized payments, credit cards, individual retirement accounts, safe deposit boxes, and discount brokerage services. Some large credit unions also offer electronic access to accounts as well as business loans. Another point of similarity is that many credit unions, like the other thrifts, have retained earnings (the portion of their net income that credit unions reserve instead of paying out in dividends to members). Credit unions contend that such earnings protect them against unexpected events; other thrift institutions complain that credit unions use the earnings to expand their operations.

Credit unions also resemble the other thrifts in that they no longer limit their membership. Originally, credit unions were designed to be cooperatives whose members shared the common bond of the same employer or occupation. Since 1982, however, regulators have allowed credit unions to extend their services to members of other organizations. Although that practice was challenged in the courts, recent legislation (the Credit Union Membership Access Act of 1998) allows multiple, unrelated groups to join the same credit union as long as each group has 3,000 or fewer members when it joins. In addition, most credit unions allow members and their families to participate permanently, even after members have left the sponsoring organization. Today, about 70 million people are members of credit unions, up from about 5 million in 1950.

Proponents of this option contend that credit unions are now quite similar to the other thrift institutions and should receive similar tax treatment. Treating all of the thrifts similarly under the tax code would encourage them to compete and provide services at the lowest cost, thereby increasing efficiency. Nevertheless, small credit unions are still more like nonprofit mutual organizations than, for example, like savings and loans, and taxing them like the other thrift institutions could be inappropriate. (See REV-34-B for an alternative option that would allow small credit unions to retain the exemption on earnings.)

REV-34-B Tax Large Credit Unions Like Other Thrift Institutions

	Added Revenues (Billions of dollars)
2002	0.4
2003	0.7
2004	0.7
2005	0.7
2006	0.8
2002-2006	3.3
2002-2011	7.7

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-34-A

An alternative to taxing all credit unions like other thrift institutions (see option REV-34-A) would be to tax only the earnings of large credit unions and allow those of small ones to remain tax-exempt. For example, the Congress could choose to tax only credit unions with assets of more than $10 million. Such an action would exempt approximately 8 percent of all assets in the credit union industry but about two-thirds of all credit unions. The option would raise $7.7 billion from 2002 to 2011.

Small credit unions, unlike large ones, are more similar to nonprofit mutual organizations, whose earnings are thus tax-exempt. The similarities between the two kinds of organizations argue for treating them the same way under the tax code. Like other nonprofit mutual organizations, most small credit unions have members with a single common bond or association. In some cases, volunteers from the membership manage and staff the credit union. Moreover, many small credit unions do not provide services comparable with those of other thrift institutions. The option is not without drawbacks, however. One difficulty in taxing large credit unions but allowing small ones to remain tax-exempt is that using $10 million in assets as a cut-off is somewhat arbitrary.

REV-35 Repeal the Expensing of Exploration and Development Costs for Extractive Industries

	Added Revenues (Billions of dollars)
2002	2.2
2003	3.0
2004	2.4
2005	1.7
2006	1.0
2002-2006	10.3
2002-2011	12.4

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

300-07, REV-36, REV-37, REV-39, and REV-44

RELATED CBO PUBLICATION:

Reforming the Federal Royalty Program for Oil and Gas (Paper), November 2000.

Through various tax preferences, the current tax system treats extractive industries (producers of oil, gas, and minerals) more favorably than most other industries (see option REV-36). One preference allows certain types of oil and gas producers and producers of hard minerals to "expense" some of their exploration and development costs—that is, to deduct those costs from their taxable income when they are incurred, rather than over time, as the resulting income is generated, a process known as capitalizing costs. Eliminating the expensing of those costs would raise $12.4 billion from 2002 through 2011. (The option assumes that firms could still expense some of their costs, specifically those from unproductive wells and mines.)

Immediately deducting costs contrasts with the tax treatment that other industries face, in which costs are deducted more slowly, according to prescribed rates of depreciation or depletion. The Tax Reform Act of 1986 established uniform capitalization rules that require certain direct and indirect costs related to property to be either deducted when the property is sold or recovered over several years as depreciation. (In both cases, the deducting of costs is postponed.) However, so-called intangible costs (for example, maintaining working capital) related to drilling and development and costs for mine development and exploration are exempt from those rules. Thus, the expensing of such costs leads to a tax preference for extractive industries that other industries do not have. (See options REV-37, REV-39, and REV-44 for other exceptions.)

Costs for exploration and development that extractive firms can expense include costs for excavating mines, drilling wells, and prospecting for hard minerals—but not for oil and gas. Although current law allows independent oil and gas producers and noncorporate mineral producers to fully expense their costs, it limits expensing to 70 percent of costs for "integrated" oil and gas producers (companies involved in substantial retailing or refining activities) and corporate mineral producers. Firms subject to the 70 percent limit must deduct the remaining 30 percent of their costs over 60 months.

The rationale for expensing the costs of exploration and development has shifted from its original focus. When the provision was put into place, the argument was that such costs were ordinary operating expenses. Today, advocates of continuing the preference justify it on the grounds that oil and gas are "strategic minerals," essential to national energy security. But expensing works in several ways to distort the allocation of resources. First, it causes resources to be allocated to drilling and mining that might be used more productively elsewhere in the economy. Second, although the preference might make the United States less dependent on imported oil in the short run, it encourages producers to extract more now—perhaps at the cost of extracting less in the future and relying more on foreign production. Third, expensing may result in production being allocated inefficiently within these extractive industries. Inefficiency may occur because the extent of the subsidy that the preference essentially provides depends on factors that are not systematically related to economic productivity—such as the difference between the immediate deduction and the true useful life of the capital—as well as on whether the producer must pay the alternative minimum tax (in which case expensing is limited).

REV-36 Repeal Percentage Depletion for Extractive Industries

	Added Revenues (Billions of dollars)
2002	0.3
2003	0.3
2004	0.3
2005	0.3
2006	0.3
2002-2006	1.5
2002-2011	3.0

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

300-07, REV-35, and REV-37

RELATED CBO PUBLICATION:

Reforming the Federal Royalty Program for Oil and Gas (Paper), November 2000.

The current tax system in various ways favors extractive industries (producers of oil, gas, and minerals) over most other industries. One way is by allowing producers to deduct immediately, rather than over time, the costs they incur for exploration and development (see option REV-35). Another is by allowing some firms to use the "percentage depletion" method to recover their costs rather than the standard "cost depletion" method. This option would repeal percentage depletion and raise about $3 billion over the 2002-2011 period.

The percentage depletion method of cost recovery is a tax preference given to certain types of extractive companies (independent producers, owners of royalties, and "nonintegrated" firms—companies that are not involved in substantial retailing or refining activities). The tax code allows those firms to deduct from their taxable income a certain percentage of a property's gross income in each taxable year, regardless of the actual capitalized costs (that is, the deduction that should occur over time). In contrast, other industries (and, since 1975, integrated oil companies as well) use the cost depletion method. Under cost depletion, the costs that a firm recovers cannot exceed its expenses for acquiring and developing the property; under percentage depletion, they may. Thus, the percentage depletion method treats certain types of extractive companies more favorably than others. Unlike the expensing of exploration and development costs, however, percentage depletion applies only to a small subset of total oil, gas, and minerals production because it excludes the large integrated producers.

Current law typically allows nonintegrated oil and gas companies to deduct 15 percent of their gross income from producing oil and gas, up to a ceiling of 1,000 barrels per day. But the Omnibus Budget Reconciliation Act of 1990 made percentage depletion even more generous for nonintegrated companies that are considered "marginal" producers (those with very low total production or production entirely made up of heavy oil). The deduction for marginal properties can be up to 25 percent of gross income if the price of oil drops low enough. Producers of hard minerals may also use percentage depletion, but the statutory percentages vary from 5 percent to 22 percent, depending on the type of mineral. Tax law limits the amount of percentage depletion to 100 percent of the net income from a property with oil and gas and 50 percent of the net income from a property with hard minerals.

Percentage depletion has been justified on the grounds that oil and gas are "strategic minerals," essential to national energy security. But that method of recovering costs distorts the allocation of resources by encouraging more production in the oil and gas industry than among other types of firms. And, like expensing, percentage depletion can cause extractive businesses to allocate their resources inefficiently—for example, by developing existing properties rather than exploring for and acquiring new ones.

REV-37 Repeal the Tax Credit for Enhanced Oil Recovery Costs and Expensing of Tertiary Injectants

	Added Revenues (Billions of dollars)
2002	0.1
2003	0.1
2004	0.1
2005	0.1
2006	0.1
2002-2006	0.5
2002-2011	1.5

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-35, REV-36, REV-39, and REV-44

RELATED CBO PUBLICATION:

Climate Change and the Federal Budget (Memorandum), August 1998.

Oil producers currently receive a tax credit of 15 percent against their costs for recovering domestic oil by a qualified "enhanced oil recovery" (EOR) method. Qualifying methods are those that allow producers to recover oil that is too viscous to be extracted by conventional methods. The costs of labor, materials, equipment, repairs, intangible drilling, and development qualify for the credit, which phases out when oil prices rise above $28 per barrel (adjusted for inflation).

The tax code also provides another preference related to viscous oil. It allows producers to "expense" the costs of tertiary injectants—the fluids, gases, and other chemicals that are injected into oil or gas reservoirs to extract highly viscous oil. Producers may deduct the full cost of those chemical injectants in the year in which they are used to extract oil. The expenditures for injectants also qualify for the EOR credit; however, the credit must be subtracted from the deduction if both are claimed for the same expenditure. Eliminating both the EOR credit and the expensing of tertiary injectants would increase revenues by $1.5 billion over the 2002-2011 period.

The Congress enacted the EOR credit as part of the Omnibus Budget Reconciliation Act of 1990. It was intended to increase the domestic supply of oil and reduce the demand for imported oil, particularly from producers in the Persian Gulf and other politically unstable areas. Legislators enacted the expensing of tertiary injectants in 1980 for similar reasons. However, without the incentives provided by the credit and expensing (both of which are essentially subsidies from the federal government), the use of tertiary injectants to extract oil would not be economical, and EOR would not be a realistic extraction approach (because it is more expensive than recovering oil by conventional methods).

Both provisions offer capital subsidies that their advocates say provide several benefits. The subsidies lower the cost of producing oil by unconventional, more-expensive methods, and they enable producers to increase the extractable portion of a reservoir's oil beyond the normal one-third to one-half. Increased domestic production lessens short-term dependence on foreign oil, but it also depletes domestic resources, encouraging long-term dependence on imports. Indeed, opponents of subsidies argue that these provisions are unlikely to reverse the long-term slide that has occurred in domestic production and the nation's growing dependence on imports. They also contend that the subsidies are no longer needed. The United States is now less vulnerable to disruptions in supply because it stockpiles oil in the Strategic Petroleum Reserve and because world oil markets have become increasingly competitive.

REV-38 Repeal the Partial Exemption from Motor Fuel Excise Taxes Now Given to Alcohol Fuels

	Added Revenues (Billions of dollars)
2002	0.5
2003	0.6
2004	0.6
2005	0.6
2006	0.6
2002-2006	2.9
2002-2011	6.4

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

270-01, 270-03, 270-08, and REV-51

The tax code imposes excise taxes on motor fuels, but it partially exempts fuels that are blends of gasoline and alcohol. Repealing that partial exemption would raise $6.4 billion in revenues over the 2002-2011 period. The estimate assumes that the Congress would also repeal the alcohol fuels credit, an alternative tax benefit that can be used instead of the partial excise tax exemption. The credit, however, is in almost all cases less valuable than the exemption and is rarely used.

The tax benefit from the exemption applies only to blends that use alcohol fuels produced from nonfossil, or renewable, sources. One such fuel is ethanol, which is produced primarily from corn and sugar. When used as a fuel, ethanol is eligible for a nonrefundable tax benefit—through the credit or the exemption—of up to 54 cents per gallon. The magnitude of the benefit depends on the percentage of alcohol in the fuel. For example, gasohol, which is 90 percent gasoline and 10 percent ethanol, receives an exemption of 5.4 cents per gallon from the excise tax on gasoline of 18.3 cents per gallon. (The tax benefit goes to the firm that blends the ethanol with the gasoline.) The benefit was first enacted in the 1970s and was scheduled to expire at the end of fiscal year 1999. But the Transportation Equity Act of 1998 extended it while gradually lowering the maximum amount. Thus, the exemption drops to 5.3 cents per gallon for 2001 to 2002, 5.2 cents per gallon for 2003 to 2004, and 5.1 cents per gallon for 2005 to 2007. The entire exemption is now scheduled to expire at the end of fiscal year 2007.

The tax benefit had several main purposes when it was first enacted. One was to bolster national security by reducing the demand for imported oil, thereby lessening U.S. dependence on foreign sources. Another was to provide an additional market for U.S. agricultural products by encouraging firms to produce ethanol domestically. Judging by sales of the motor fuel blends, the tax benefit appears to have successfully encouraged energy producers to substitute ethanol for gasoline.

Today, supporters of the benefit argue, the major justification for it is that using oxygenated fuels in motor vehicles generally produces less carbon monoxide pollution than using gasoline. Those proponents might also point to the effect that repealing the benefit could have on federal outlays for price support loans for grains. Without the benefit's incentive to produce corn for ethanol, the price of corn might fall, which could lead the government to step in to help farmers. But any increase in outlays for price support loans, which is not included in the budget estimates shown above, would probably be much smaller than the projected boost in revenues.

Regulations now in place under the Clean Air Act Amendments of 1990, mandating the minimum oxygen content of gasoline used in areas with poor air quality, raise questions about the continued need for the benefit. Recent actions by the Environmental Protection Agency to restrict the use in gasoline of MTBE (an alcohol fuel derived from fossil fuel sources) further support the use of ethanol to meet the standards for oxygen content. Another argument for repealing the exemption involves resource allocation. It takes more resources to produce ethanol than to produce gasoline. The resource allocation that results from the partial exemption may be economically inefficient if the value of those resources in alternative uses outweighs the value of the reduction in air pollution.

REV-39 Capitalize the Costs of Producing Timber

	Added Revenues (Billions of dollars)
2002	0.4
2003	0.6
2004	0.5
2005	0.5
2006	0.5
2002-2006	2.5
2002-2011	4.7

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

300-01, REV-35, REV-37, and REV-44

The current tax system allows timber producers to deduct, or "expense," most of the costs of maintaining a stand of timber when those costs are incurred. (Such expenses include disease and pest control, brush clearing, and indirect carrying costs such as interest on loans and property taxes.) That tax treatment contrasts with the uniform capitalization rules that apply to such costs in most other industries. (See options REV-35, REV-37, and REV-44 for other exceptions.) Established under the Tax Reform Act of 1986 (TRA-86), the uniform capitalization rules require that production costs not be deducted until goods or services are sold. When businesses are allowed to expense those costs, the effective tax rate on a producer's investment in them is zero. Thus, timber producers pay no tax on any income they use to cover those costs, and the tax code in effect subsidizes timber production by deferring taxes that producers otherwise would owe on their income. (Under certain circumstances, however, the tax code's limits on losses from passive business activities may greatly curtail the deferral granted to noncorporate producers of timber.) This option would capitalize costs incurred after December 31, 1999, for producing timber; it would raise \$4.7 billion in revenues from 2002 through 2011 by accelerating tax payments from timber producers.

Various rationales have been offered for expensing the costs of timber production. The original justification was a general perception that such costs were for maintenance and thus deductible as ordinary costs of a trade or business. When TRA-86 established uniform capitalization rules for other industries, one reason given for exempting timber was that applying the rules to that industry might have been unduly burdensome. But the exemption comes with an economic price. The subsidy from expensing the costs of timber production distorts investing in two ways: more private land is devoted to timber production than might otherwise have been the case, and trees are allowed to grow longer before they are cut (because producers do not have to harvest them quickly to finance their costs). Those outcomes could be considered beneficial if timber growing offered spillover benefits to society that market prices did not take into account. Otherwise, the tax preference would lead to inefficiency in both the use of land and rate of harvesting.

Whether or not timber production offers important spillover benefits is unclear. Standing timber provides some benefits by deterring soil erosion and absorbing carbon dioxide (a gas linked to global warming), but timber cutting can lead to soil erosion. In addition, producing and disposing of wood and paper products contribute to pollution.

In the short run, capitalizing the costs of timber production might lower the price of domestic timber because producers would have an incentive to harvest earlier. In the longer run, however, it would raise prices and lower the value of the land used to grow timber. Moreover, lease payments to private landowners by timber growers would probably decline, causing some land that historically has been devoted to growing timber to be used in other ways.

REV-40 Tax the Income Earned by Public Electric Power Facilities

	Added Revenues (Billions of dollars)
2002	0.4
2003	0.7
2004	0.7
2005	0.7
2006	0.7
2002-2006	3.2
2002-2011	7.2

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

270-05, 270-06, 270-07, 270-11, REV-45, and REV-46

The income that local governments earn from any public utility, including electric power facilities, is exempt from federal income tax. In contrast, the income of investor-owned utilities is taxable. Taxing the income of public facilities for generating, transmitting, and distributing electricity similarly to the income of investor-owned facilities would raise $7.2 billion from 2002 through 2011.

In the past, electricity was provided by local monopolies, in part to take advantage of cost-saving economies of scale. Some of those utilities were public facilities, which developed for a variety of reasons. For example, public facilities offered a feasible alternative in geographic areas where low population density caused the cost of power per customer to be high and private producers were reluctant to enter a market in which the potential for profit appeared inadequate. Public utilities also developed in areas where citizens worried that a private provider might exploit its position as a monopoly and wanted to ensure that electricity would be available to all residential consumers at a reasonable cost.

But times and circumstances change. States have begun to deregulate electric power generation, in part because improved technologies have lessened the importance of economies of scale and in part because electric service is almost universal in this country, even in areas of low population density. And the competition that the industry's restructuring brings, say advocates of this option, will protect consumers from monopolistic pricing by private firms.

One argument for exempting public power's income from taxation has been that it is a way to keep the price of power low and thus subsidize the power costs of lower-income people. But preferential tax treatment is an inefficient way of accomplishing that. The federal government could help lower-income groups—with less revenue loss and less impact on the expected gains to the economy from restructuring—by expanding aid that is already available, specifically the Low Income Home Energy Assistance Program of grants to the states.

Proponents of this option would contend that economic and technological changes, combined with the fact that approximately 75 percent of electric power is already provided by the private sector, cast doubt on the benefits society receives from public-sector involvement in this market. Even less clear are the benefits that federal taxpayers receive from treating the earnings of public providers of electricity more favorably than the earnings of private providers. Proponents contend that taxing publicly owned electric facilities will spur competition. It will also cause the economically efficient amount of public power to be consumed and preserve the corporate tax base.

At the same time, taxing the income of public electric utilities might adversely affect consumers in some communities who rely on that source for their power. The tax would cause the price of publicly provided electricity to rise, and public utilities that found themselves uncompetitive without the subsidy might have to shut down some facilities that were inefficient. If those facilities were being financed with debt that had not yet been retired, taxpayers could be left with significant costs. Further complicating a change such as the one described in this option are the numerous legal and practical issues that would have to be resolved if the federal government taxed income earned from what might be termed business enterprises of state and local governments.

REV-41 Replace the Income Tax Credit with a Business Deduction for Employer FICA on Certain Tip Income

	Added Revenues (Billions of dollars)
2002	0.2
2003	0.3
2004	0.3
2005	0.3
2006	0.3
2002-2006	1.4
2002-2011	2.9

SOURCE: Joint Committee on Taxation.

Employers in the food and beverage industry are entitled to a nonrefundable credit, applied against their income tax liability, for the taxes they pay on employee tips under the Federal Insurance Contributions Act, or FICA. (FICA is the law underlying the payroll tax that funds Social Security.) However, any amount of tips that makes up the difference between an employee's regular wages and the minimum wage is excluded from the credit. This option would replace the credit with a business deduction, the tax code's standard treatment for such labor costs. It would increase revenues by $2.9 billion from 2002 through 2011.

How the tax code treats employers' taxes on tips has changed several times over the past decade or so. Before 1988, an employer was required to pay FICA tax on tips only in certain circumstances: if the federal minimum wage exceeded the wage the employer was paying, the employer paid tax on tips equaling the difference between the two wages. However, the Omnibus Budget Reconciliation Act of 1987 expanded the definition of wages subject to FICA tax to include all cash tips, which prompted opponents of that expansion to develop proposals for repealing the provision. For example, the Revenue Act of 1992 would have kept the expanded definition for FICA purposes but would have granted a full, nonrefundable credit against the new FICA tax as part of the general business credit. Legislators used that indirect approach because Congressional budget rules make it particularly difficult to lower Social Security revenues. The bill never became law; however, a similar provision was enacted as part of the Omnibus Budget Reconciliation Act of 1993. In that case, the credit applied only to tips received at establishments serving food and beverages. The Small Business Job Protection Act of 1996 expanded the credit to tips received in connection with food served for takeout or delivered off premises.

Proponents of replacing the credit with a deduction cite several arguments. They maintain that the credit treats a specific industry (food service) and a specific form of compensation (tips) preferentially, encouraging employment in one sector of the economy at the expense of other, potentially more productive sectors. In contrast, proponents of the credit assert that tips differ from wages since they are paid by customers, not employers. From an economic perspective, however, tips are the same as wages because employees earn them for services performed. Tips could be considered self-employment income, but treating them that way would greatly increase the administrative burden of tax collection.

Advocates of retaining the credit contend that it may make the overall tax system more progressive. A credit reduces the tax burden of firms more than does a deduction. If the money a firm saves on taxes is passed on to low-wage earners —and the wages of waiters and waitresses are much lower than those of most employees—then progressivity would, indeed, be increased. However, firms might instead pass their savings on to customers, shareholders, or higher-paid employees—which would have little effect on progressivity.

REV-42 Tighten Rules on Interest Deductions for Corporate-Owned Life Insurance

	Added Revenues (Billions of dollars)
2002	0.3
2003	0.4
2004	0.4
2005	0.5
2006	0.5
2002-2006	2.1
2002-2011	4.9

SOURCE: Joint Committee on Taxation.

Corporations purchase life insurance policies in part to protect firms against financial loss in case one or more of their important employees or owners dies. Purchases of life insurance that builds up a cash value provide a tax benefit if corporations pay the premiums on the policies indirectly (by increasing debt or other liabilities) and then deduct the interest they pay on that debt from their taxable income. The Internal Revenue Service will not allow corporations to deduct that interest if it can link a firm's increases in debt or other liabilities directly to its purchase of cash-value insurance. Establishing a direct connection is difficult, however, because firms increase their liabilities for many purposes.

This option would disallow a proportion of a firm's total deductions for interest equal to the proportion of its total assets invested in cash-value life insurance policies. The option would not apply to insurance on the life of owners who had an interest of 20 percent or more in the firm. It would raise an estimated $4.9 billion over the 2002-2011 period.

The tax code's asymmetrical treatment of the investment income a corporation receives from life insurance policies and its costs in relation to those policies is the source of the tax benefit. First, tax law exempts the investment income (termed the "inside buildup") of a life insurance policy from corporate income tax. Second, it permits a corporation to deduct from its taxable income the interest on debt that is indirectly used to finance that investment. Such an approach opens the door to tax arbitrage (broadly, gaining advantage from asymmetrical treatment of gains and losses in the tax code) because corporations can generate interest deductions that they can then use to shelter other taxable income. Individual taxpayers may not gain that benefit because the tax code does not allow them to deduct those interest payments.

Over the past several years, the Congress has acted to keep corporations from using life insurance policies to shelter income. In 1996, it prohibited corporations from deducting the interest on loans from an insurance company that used the cash-value policy as collateral. (It made an exception, however, for insurance on certain key employees.) In 1997, the Congress enacted a law that disallowed a proportion of a corporation's interest deductions, but the law applied only to firms that purchased cash-value insurance on the lives of people who were not employees or owners. This option would further prohibit such deductions except for purchases of insurance on the lives of people who own at least 20 percent of the firm. The Clinton Administration included that alternative in its budgetary proposals for fiscal years 1999 through 2001. (This kind of disallowance has been used in other contexts as well. In 1986, the Congress disallowed a proportion of interest deductions for financial institutions that purchase debt issued by state and local governments whose interest is tax-exempt.)

Opponents of this option argue that a firm may have legitimate business reasons to purchase life insurance policies on its employees and owners as well as other business reasons to issue debt, and that the firm may not be linking the two decisions to create a tax shelter. Proponents of the option argue, however, that firms in most cases intend to use the policies and debt to shelter income from taxation.

REV-43 Repeal Tax-Free Conversions of Large C Corporations to S Corporations

	Added Revenues (Billions of dollars)
2002	a
2003	a
2004	0.1
2005	0.1
2006	0.1
2002-2006	0.3
2002-2011	0.8

SOURCE: Joint Committee on Taxation.

a. Less than $50 million.

For tax purposes, the predominant forms of business enterprise are C corporations, S corporations, partnerships, and sole proprietorships. Under current law, a C corporation may reduce taxes on some of its income by electing to be treated as an S corporation or by converting to a partnership. The income of C corporations faces a two-tiered corporate tax; that is, it is generally taxed twice—once when it is earned by the corporation and again when it is distributed to stockholders. Income received by S corporations and partnerships, in contrast, is taxed only once, at the personal tax rates of the firms' owners.

Over time, the distinction between S corporations and partnerships has blurred. Nevertheless, a C corporation electing to change its filing status to that of an S corporation receives preferential tax treatment compared with a C corporation that converts to a partnership. Converting to an S corporation is tax-free in many circumstances; converting to a partnership is taxable and requires the corporation to "recognize" (include in its taxable income) any built-in gain on its assets and the shareholders to recognize any such gain in their corporate stock. Under section 1374 of the Internal Revenue Code, if a C corporation converts to an S corporation, the appreciation of the firm's assets while it was a C corporation is not subject to the corporate-level tax—unless the assets are sold within 10 years of the conversion. Thus, current law allows a C corporation to avoid the two-tiered corporate tax by converting tax-free to an S corporation.

This option would repeal tax-free conversions for corporations with a value of more than $5 million at the time of conversion. Thus, when a C corporation with a value of over $5 million converted to an S corporation, the corporation and its shareholders would immediately recognize the gain in their appreciated assets. This option would increase income tax revenues by $0.8 billion over the 2002-2011 period.

Proponents of this option argue that repealing tax-free conversions by C corporations would treat economically similar conversions—from two-tiered corporate tax systems to single-tiered systems—in the same way. That equalization would, in turn, make tax considerations less important in decisions about the legal form that a firm might take. People who think S corporations more closely resemble corporations than they do partnerships may consider it beneficial to preserve the current differential tax treatment. According to that viewpoint, current law merely allows a corporation to change its filing status from that of a C corporation to an S corporation, providing it meets the legal requirements, without having to pay tax for choosing a different corporate form.

REV-44 Repeal the Expensing of Certain Agricultural Costs

	Added Revenues (Billions of dollars)
2002	0.4
2003	2.3
2004	1.2
2005	0.5
2006	0.3
2002-2006	4.7
2002-2011	5.3

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-35, REV-37, and REV-39

Like its treatment of some of the costs of producing timber, the current tax code allows most farmers—except farm corporations, partnerships, and tax shelters—to "expense," or deduct in the current year, certain capital outlays and costs of production, even when such investments generate income over several years. That tax treatment contrasts with the rules for depreciation and uniform capitalization that apply to most other industries, which deduct those costs more slowly. (See options REV-35, REV-37, and REV-39 for other exceptions.)

Agricultural expenses qualifying for immediate deduction include purchases of tools; the costs of breeding, feeding, and raising livestock; certain expenses for soil and water conservation; purchases of fertilizer; and the costs of developing and planting crops that require two years or less between planting and harvesting. In many cases, such investments produce income over more than a single tax year. Expensing those costs understates income in the year they are deducted. As a result, farmers are allowed to defer income taxes that they would otherwise have paid. This option would repeal the expensing of those agricultural costs, raising $5.3 billion in revenues from 2002 through 2011.

The Congress has acted in the past to restrict expensing within some industries. For example, the Tax Reform Acts of 1976 and 1986 limited its use by farm corporations and tax-shelter operations. In addition, the 1986 act established the uniform capitalization rules, which require most other types of businesses to deduct their costs for producing and reselling more slowly than they had previously. Thus, current law on the expensing of agricultural costs favors the production of small farms over that of larger ones and the agriculture industry in general over most other industries. That kind of tax preference raises issues of equity and can cause society's resources to be inefficiently allocated. Subjecting all farms to the normal rules for depreciation and uniform capitalization would treat businesses and industries similarly for tax purposes and help neutralize the tax system's effects on economic decisions. (It would not entirely neutralize those effects, however, because agriculture receives other special tax treatment.)

The original justification for expensing the costs of agricultural production was to simplify financial recordkeeping by farmers. Although the administrative costs of recordkeeping are clearly lower today than they used to be, opponents of this option would point out that it might still be simpler for farmers to deduct costs in one period rather than over several periods.

REV-45 Eliminate the Exemption of Income for Cooperatively Owned Electric and Telephone Utilities

	Added Revenues (Billions of dollars)
2002	0.2
2003	0.3
2004	0.3
2005	0.3
2006	0.3
2002-2006	1.4
2002-2011	3.3

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

270-05, 270-06, 270-07, 270-11, REV-40, and REV-46

RELATED CBO PUBLICATIONS:

Should the Federal Government Sell Electricity? (Study), November 1997.

Electric Utilities: Deregulation and Stranded Costs (Paper), October 1998.

Electric and telephone cooperatives, which are owned by their customers, are effectively or explicitly exempt from corporate income tax. They pay no tax on the portion of their income that they are required to distribute as dividends to their members, and they pay no tax on earnings from other sources, as long as at least 85 percent of their income comes from members for providing their primary service (electricity or telephone). Moreover, some forms of outside income—including rental income from telephone poles that are leased to cable or telephone companies and income from the Yellow Pages, cable TV, and Internet access—are not even counted toward the remaining 15 percent.

Eliminating those exemptions, which essentially provide subsidies to electric and telephone cooperatives, and taxing the co-ops as ordinary for-profit corporations would raise $0.2 billion in 2002 and $3.3 billion over the 2002-2011 period. In addition to exempting the co-ops' income from the corporate income tax, current law does not tax their distributions of dividends to members—whether as cash or as payments in kind in the form of household utility services. Eliminating that exemption could generate additional revenues.

The tax breaks given to co-ops, along with the low-interest loan program available through the Rural Utilities Service (see option 270-05), were created to encourage the wiring of rural areas for service. But now that most of the nation has telephone service, and with the advent of cell phones, there is little justification for subsidizing such wiring. As for electricity, most of the United States is already connected to the nationwide electricity grid, and the cost to distributors of providing electricity is probably the same for rural and urban customers. Moreover, all electric cooperatives receive the subsidies, even generation cooperatives that do not need them (because generating electricity does not cost more in rural areas). Finally, the market for electricity has been partially deregulated in the past few years. Continuing to provide this tax exemption in a more competitive environment gives cooperatives an advantage over utilities that are investor owned and that pay corporate income taxes.

Arguing against this option are its consequences for the co-ops' customers. If the tax exemption is withdrawn and cooperatively owned electric and telephone utilities must pay the same corporate income tax that other suppliers of electricity pay, then rates to the cooperatives' customers may rise. Ending the exemption would also raise issues related to equity. Subjecting electric and telephone co-ops to taxes that most other co-ops do not pay would treat some kinds of firms more favorably than other, similar operations.

REV-46 Eliminate the Exemption of Interest Income on Debt Issued by State and Locally Owned Electric Utilities for New Generating or Transmitting Facilities

	Added Revenues (Billions of dollars)
2002	a
2003	0.1
2004	0.1
2005	0.1
2006	0.2
2002-2006	0.5
2002-2011	2.0

SOURCE: Joint Committee on Taxation.

a. Less than $50 million.

RELATED OPTIONS:

270-05, 270-06, 270-07, 270-11, REV-40, and REV-45

State and locally owned utilities, as well as a small number of investor-owned utilities, issue tax-exempt bonds to finance the generation and transmission of electricity. Because the interest utilities pay on those bonds is not taxed, investors are willing to accept a lower yield than they would otherwise require to purchase those securities. By allowing some utilities to finance new generating and transmitting facilities through tax-exempt bonds, the tax code treats those utilities more favorably than others—for example, most cooperatively and investor-owned utilities that must issue taxable debt, on which investors require a higher rate of interest. This option would eliminate the exemption and tax the interest earned on bonds used by state and locally owned utilities to finance new generation or transmission facilities. It would raise about $2 billion over the 2002-2011 period.

State and locally owned utilities also use tax-exempt bonds to finance the distribution and retailing of electricity. This option does not apply to bonds for those purposes, although eliminating those tax exemptions could generate additional revenues. The option also does not apply to outstanding bonds that were used to finance existing generation and transmission facilities.

The market for electricity is becoming increasingly competitive. Many states have already deregulated the generation sector of the electricity industry, allowing customers to choose their electricity supplier. More states are expected to deregulate in the future. Utilities that have access to tax-exempt financing have a lower cost of capital than do other providers of electricity. By using that lower-cost capital to cut prices to their customers, such utilities not only encourage consumers to use more electricity than they would otherwise have used but also gain an advantage over other utilities in competing for customers. Utilities with access to lower-cost capital that did not use it to cut prices would probably use it to subsidize other public services or support inefficient techniques for producing electricity.

Proponents of maintaining the tax exemption argue that if it ended and state and locally owned utilities paid the same interest rate to attract capital for generation and transmission that other electricity suppliers pay, the rates charged for electricity by publicly owned utilities might rise. In addition, some people argue that the low cost of capital is necessary to finance universal service or affordable electricity rates for some disadvantaged groups.

REV-47 Increase the Excise Tax on Cigarettes by 50 Cents per Pack

	Added Revenues (Billions of dollars)
2002	5.3
2003	6.9
2004	6.9
2005	6.9
2006	6.9
2002-2006	32.9
2002-2011	67.9

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-49

RELATED CBO PUBLICATIONS:

Federal Taxation of Tobacco, Alcoholic Beverages, and Motor Fuels (Study), August 1990.

The Proposed Tobacco Settlement: Issues from a Federal Perspective (Paper), April 1998. (The proposal discussed in that publication does not reflect the final settlement.)

Taxes on certain goods and services can influence consumers' choices, causing people to purchase less of the taxed items. That taxation generally leads to a less efficient allocation of society's resources unless some of the costs associated with the taxed items are not reflected in their price. Tobacco is one such product that creates "external costs" to society that are not reflected in its pretax price—for example, higher costs for health insurance to cover the medical expenses linked to smoking and the effects of cigarette smoke on the health of nonsmokers. Taxes increase prices and can result in consumers' paying the full cost (including the external costs) of smoking. Increased taxes have also been shown to reduce the consumption of tobacco. Researchers estimate that each 10 percent increase in cigarette prices is likely to lead to a decline in cigarette consumption of 2.5 percent to 5 percent, probably with a larger decline for teenagers.

Tobacco is taxed by both the federal government and the states. Currently, the federal cigarette excise tax is 34 cents per pack; it will increase to 39 cents in 2002. (Other tobacco products have similar taxes.) State excise taxes averaged about 42 cents per pack in 2000. In addition, settlements reached between state attorneys general and major tobacco manufacturers require payments of fees equivalent to an excise tax of about 45 cents per pack.

Federal tobacco taxes raised about $5.4 billion in fiscal year 1999, or about 0.3 percent of total federal revenues. Several bills introduced in the 105th Congress proposed raising the excise tax, and in his budget for 2001, President Clinton proposed an increase of 25 cents per pack. This option would increase the cigarette tax by 50 cents a pack in addition to the scheduled increases, boosting net revenues by about $68 billion between 2002 and 2011.

No consensus exists about the magnitude of the external costs of smoking, which makes it difficult to judge the efficiency of tobacco taxes. Some economists estimate that the external costs of smoking are significantly less than the taxes and settlement fees now levied on tobacco; others think that the external costs are greater and that taxes should be increased even more. Technical issues cloud the debate; for example, the effect of secondhand smoke on people's health is uncertain. Much of the controversy centers on varying theories about what to include in figuring external costs—such as whether to consider tobacco's effects on the health of smokers' families or the savings in spending on public health and pensions that result from smokers' shorter lives. Nevertheless, increasing excise taxes may be desirable regardless of the magnitude of external costs if consumers underestimate the harm of smoking or the addictive power of nicotine. Teenagers, especially, may not be prepared to evaluate the long-term effects of beginning to smoke, although all populations know that smoking has health risks.

Arguing against taxes on tobacco is their regressivity; that is, such taxes take up a greater percentage of the earnings of low-income families than of middle- and upper-income families. That imbalance occurs because lower-income people are more likely to smoke and because expenditures on cigarettes for those who smoke do not rise appreciably with income.

REV-48 Increase All Alcoholic Beverage Taxes to $16 per Proof Gallon

	Added Revenues (Billions of dollars)
2002	4.0
2003	4.7
2004	4.8
2005	4.8
2006	4.8
2002-2006	23.1
2002-2011	47.4

SOURCE: Joint Committee on Taxation.

RELATED OPTION:

REV-49

RELATED CBO PUBLICATION:

Federal Taxation of Tobacco, Alcoholic Beverages, and Motor Fuels (Study), August 1990.

In terms of the tax per ounce of ethyl alcohol, current federal excise taxes treat alcoholic beverages in different ways. Levies remain much lower on beer and wine than on distilled spirits, and they are figured on different liquid measures. Distilled spirits are measured in proof gallons, a standard measure of a liquid's alcohol content; the current rate of $13.50 per proof gallon results in a tax of about 21 cents per ounce of alcohol. Beer, however, is measured by the barrel, and the current rate of $18 per barrel leads to a tax of about 10 cents per ounce of alcohol (assuming an alcohol content for beer of 4.5 percent). The current levy on table wine is $1.07 per gallon and results in a tax of about 8 cents per ounce of alcohol (assuming an average alcohol content of 11 percent). In fiscal year 1999, federal excise taxes on distilled spirits, beer, and wine raised approximately $7.7 billion.

This option would standardize the base on which the federal excise tax is levied and use the proof gallon as the measure for all alcoholic beverages. It would also increase the tax to $16 per proof gallon, raising about $47 billion between 2002 and 2011. A tax of $16 per proof gallon comes to about 25 cents per ounce of ethyl alcohol. It would raise the tax on a 750-milliliter bottle of distilled spirits from about $2.14 to $2.54, the tax on a six-pack of beer from about 33 cents to 81 cents, and the tax on a 750-milliliter bottle of table wine from about 21 cents to 70 cents.

The consumption of alcohol creates costs to society that are not reflected in the pretax price of alcoholic beverages. Examples of those "external costs" include costs related to health care that are covered by the public, losses in productivity that are borne by others, and the loss of lives and property in alcohol-related accidents and crime. Calculating such costs raises both practical and theoretical difficulties, but a study reported by the National Institute on Alcohol Abuse and Alcoholism estimated that the external economic costs of alcohol abuse exceeded $100 billion in 1998.

Raising the price of alcoholic beverages through a hike in excise taxes would reduce the external costs of alcohol use and lead consumers to pay a larger share of those costs. Studies consistently show that higher prices lead to lower consumption and less abuse of alcohol, even among heavy drinkers. Moreover, boosting excise taxes to reduce consumption may be desirable regardless of the effect on external costs if consumers are unaware of or underestimate either the harm that their drinking does to them and others or the extent of the addictive qualities of alcohol.

Yet taxes on alcoholic beverages have their downside as well. They are regressive when compared with annual family income; that is, such taxes take up a greater percentage of income for low-income families than for middle- and upper-income families. In addition, taxes on alcohol fall not only on problem drinkers but also on drinkers who impose no costs on society and are thus unduly penalized. Taxes are also likely to reduce consumption by some light drinkers whose intake of alcohol might produce beneficial health effects.

REV-49 Index Tobacco and Alcohol Tax Rates for Inflation

	Added Revenues (Billions of dollars)
2002	0.3
2003	0.8
2004	1.1
2005	1.4
2006	1.8
2002-2006	5.4
2002-2011	18.7

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-47 and REV-48

RELATED CBO PUBLICATIONS:

Federal Taxation of Tobacco, Alcoholic Beverages, and Motor Fuels (Study), August 1990.

The Proposed Tobacco Settlement: Issues from a Federal Perspective (Paper), April 1998. (The proposal discussed in that publication does not reflect the final settlement.)

Federal alcohol and tobacco taxes raised over $13 billion in fiscal year 1999, including about $7.7 billion from taxes on distilled spirits, beer, and wine and about $5.4 billion from taxes on tobacco. Together those taxes represented nearly one-fifth of the revenues from all excise taxes and almost 0.7 percent of total federal revenues. Tobacco and alcohol excise taxes are currently imposed on a per-unit basis (such as on a pack of cigarettes or bottle of wine). Their real cost (after adjusting for the effects of inflation) has declined as inflation has risen because increases in tax rates have not kept pace with the growth in prices. For example, despite several small legislative increases, excise taxes on distilled spirits have dropped by nearly 80 percent in real terms since 1951.

One way to prevent inflation from eroding real tax rates is to index the rates—that is, tie increases in them to increases in prices. Indexing the rates of excise taxes on tobacco and alcoholic beverages would raise almost $19 billion in the 2002-2011 period and avoid the need for abrupt nominal increases in the future.

The pretax prices of tobacco and alcoholic beverages cover the costs manufacturers incur to produce and distribute their goods. But smoking and drinking create other, "external" costs to society that those prices do not reflect. Examples include medical expenses linked to smoking and drinking that are covered by the public, the effects of cigarette smoke on the health of nonsmokers, and the loss of lives and property in alcohol-related accidents.

By raising the price of tobacco and alcoholic beverages, excise taxes can help lower consumption of those products, which will reduce the external costs of smoking and drinking. In addition, increasing excise taxes can lead to consumers paying a larger share of the costs of those activities. If the external costs of smoking and drinking come mainly from heavy or abusive consumption by a minority of consumers, however, higher excise taxes could unduly penalize moderate and occasional smokers and drinkers. A further drawback is that taxes on tobacco and alcoholic beverages are regressive when compared with annual family income, accounting for a greater percentage of the earnings of low-income families than of middle- and upper-income families. In recent years, tobacco taxes have become increasingly regressive as the smoking rate has declined faster among wealthier than among less affluent groups.

An alternative to indexing would be to convert excise taxes to ad valorem taxes, which equal a percentage of the manufacturer's price. That method would link tax revenues to price increases; specifically, it would tie revenues to the price of the taxed goods and not to the level of overall prices. Indexing would mitigate a shortcoming of the ad valorem tax, which is that it creates incentives for manufacturers to reduce the taxes they owe by artificially lowering the prices they charge company-controlled wholesalers.

REV-50 Increase Excise Taxes on Motor Fuel by 12 Cents per Gallon

	Added Revenues (Billions of dollars)
2002	11.8
2003	15.9
2004	15.8
2005	15.9
2006	16.2
2002-2006	75.6
2002-2011	163.2

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

270-08 and REV-38

RELATED CBO PUBLICATION:

Federal Taxation of Tobacco, Alcoholic Beverages, and Motor Fuels (Study), August 1990.

Federal taxes on motor fuel, which are used to finance highway construction and maintenance, are currently 18.4 cents per gallon of gasoline and 24.4 cents per gallon of diesel fuel. This option would raise those taxes by 12 cents per gallon, increasing revenues by almost $12 billion in 2002 and slightly more than $163 billion over the 2002-2011 period. The total federal tax on gasoline under the option would be 30.4 cents per gallon. To bolster the overall budget surplus, the Congress could allocate the additional revenues to the general fund rather than use them to finance further spending on highways.

Imposing new or higher taxes on petroleum could have several beneficial effects. For example, making petroleum more expensive could encourage conservation and reduce pollution. Higher prices might encourage people to drive less or to purchase more fuel-efficient cars and trucks. Less consumption of motor fuel would also lessen carbon dioxide emissions and could therefore help slow global warming. A further benefit is that the tax would offset, though imperfectly, the costs of pollution and road congestion that automobile use engenders.

Increasing tax rates on motor fuels raises some issues of fairness, however. It would impose an added burden on the trucking industry and on people who commute long distances by car, groups that are not necessarily the highway users who impose the greatest costs of pollution and congestion on others. Such costs are much higher in densely populated areas, primarily in the Northeast and coastal California, whereas the amount of motor fuel consumed per person is greatest in rural areas. In addition, taxes on gasoline and other petroleum products are regressive: they take up a greater percentage of income for lower-income families than for middle- and upper-income families.

REV-51 Replace Existing Excise Taxes on Heavy Vehicles with a Tax Based on Weight and Distance Traveled

Heavier vehicles impose disproportionately larger costs on the nation's highway system than do lighter vehicles. Vehicles that carry passengers cost less than a penny, on average, for each mile they travel compared with almost 7 cents per mile for the average combination truck (for example, a tractor-trailer or a tractor-semitrailer). Road maintenance and repair costs rise with the weight of a vehicle; however, among vehicles of comparable weight, those with more axles impose lower costs. Owners of heavy vehicles currently pay the tax levied on diesel fuels and three other federal excise taxes: a retail sales tax of 12 percent on new trucks and trailers, a yearly use tax on heavy vehicles, and a tax paid by the manufacturer on tires for heavy vehicles. Taken together, the taxes on heavy vehicles do not effectively match a heavy vehicle's tax liability with the damage it does to roads. Some heavy vehicles pay more than their share of those costs, while others pay less. This option would replace the three existing excise taxes with a single per-mile tax based on a vehicle's weight and number of axles, which would better align the taxes a truck pays with the damage it does to roads. Because that single tax could be structured to be revenue neutral or to increase tax collections, no table is shown.

Existing excise taxes fail to effectively match a vehicle's tax burden with its cost to the nation's highways. The manufacturer's tax on tires comes the closest to aligning taxes with costs. First, it is levied only on tires for heavy vehicles. Second, it is related to the distance a truck travels, because the more miles that are driven, the sooner the tire must be replaced. In contrast, the 12 percent retail sales tax that the government levies on the purchase of new trucks is unrelated to how far they drive or how much they cost the highway system. Indeed, that tax may actually discourage people from purchasing newer, more fuel efficient trucks. And the use tax on heavy vehicles applies to all trucks weighing more than 75,000 pounds and does not vary with annual mileage. Thus, despite the vastly different costs they impose on highways, a vehicle weighing 140,000 pounds and traveling 100,000 miles annually pays the same use tax as a vehicle weighing 80,000 pounds and traveling only 10,000 miles.

Proponents of substituting a single tax based on weight and distance for the three existing excise taxes see several benefits to such a change. First, a weight/distance tax would make vehicles pay for the costs they actually inflict on highways. Heavier vehicles would pay more than lighter vehicles, and, within weight categories, vehicles with more axles would pay less per mile (since they cause less damage). Second, replacing three taxes with a single levy would simplify the tax code. Third, the transition to the new tax regime would be relatively simple because operators of heavy vehicles already record the gross weight of their truck, the number of miles they travel annually, and the number of the truck's axles—the information needed to administer the tax. Finally, eliminating the three existing excise taxes would mitigate some of the adverse economic consequences associated with those taxes. For example, the retail sales tax would no longer discourage people from purchasing new and more energy efficient vehicles.

Opponents argue against this option on several grounds. The new tax regime would not perfectly link a vehicle's taxes to the damage it did to highways. The tax would be assessed on a vehicle's gross weight (usually, the weight when fully loaded). Tying the tax to gross weight would lead to overpayment for the miles driven when the truck was empty and underpayment for the miles driven when it was overloaded (which occasionally occurs in the truck industry). Furthermore, the option's imperfect alignment of taxes and costs would encourage even more overloading.

REV-52-A Tax Water Pollutants on the Basis of Biological Oxygen Demand

	Added Revenues (Billions of dollars)
2002	1.9
2003	2.7
2004	2.6
2005	2.5
2006	2.4
2002-2006	12.1
2002-2011	23.3

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-52-B, REV-53-A, REV-53-B, REV-53-C, and REV-53-D

The Clean Water Act (CWA), which was last amended in 1987, requires all municipal and industrial wastewater to be treated to protect the quality of the nation's water. The regulations written to implement the act cover all facilities that discharge wastewater—and the effluents, or pollutants, it contains—directly into water or indirectly into sewer systems; they specify the use of pollution-abatement technology or impose limits on the concentrations of pollutants that may be discharged. The CWA prohibits those facilities (sometimes referred to as point sources) from discharging pollutants without a permit. Under the CWA, a permit requires the point source to attain certain technology-based limits on the effluents in its discharges, to record discharge volumes, and to monitor effluent levels. In general, facilities that are subject to water pollution standards do not pay taxes or fees based on effluents that the regulations allow them to discharge.

The CWA also requires states, tribes, and other jurisdictions to evaluate water quality conditions in their areas and submit reports to the Environmental Protection Agency every two years. According to the 1998 evaluation, about 40 percent of the rivers, lakes, and estuaries that the reports covered failed to meet water-quality standards at some time during that year. (Authorities judged a body of water as failing if it was not clean enough to support basic uses, such as swimming and fishing.) Organic water pollutants, as they decompose, contribute to that failure by depleting the oxygen in the water, which is necessary to sustain fish and other aquatic life. Biological oxygen demand (BOD) measures the intensity of oxygen-demanding wastes in water. (One BOD equals 1 milligram of oxygen consumed per 2.2 pounds of effluent.) Most of the large-volume dischargers of effluents with high levels of BOD include such point sources as publicly owned treatment works (POTWs), paper and pulp mills, food processors, metal producers, and chemical plants. Discharges by point sources total about 16.6 million pounds of effluent per day; POTWs discharge about 8.4 million pounds of that amount. The cost of abating pollution in discharges from POTWs and many industries that are regulated under the CWA averages about 50 cents to 75 cents per pound of effluent removed.

This option would tax water pollutants on the basis of their biological oxygen demand. Such a tax on levels of BOD could encourage manufacturing facilities and POTWs to reduce the pollutants they now discharge. For effluents with an average concentration of 22 BOD, a tax of 66 cents per pound of effluent discharged would raise about $12 billion from 2002 through 2006 and about $23 billion over the 2002-2011 period.

Several arguments could be made supporting such a tax. First, a tax on pollution would tend to discourage activities that impose costs on society. In economic terms, it would also increase welfare if the additional abatement costs were less than or equal to the social benefits from reduced levels of pollution. Second, an excise tax on BOD could increase the level of pollution control in a cost-effective (least-cost) manner—by encouraging firms with the lowest abatement costs to reduce pollution and by allowing firms with high abatement costs to continue discharging pollutants and paying the tax. Third, the costs of administering an excise tax based on BOD water pollution would be small: allowable levels of BOD discharges are specified in the permits issued to dischargers under the CWA. Finally, imposing a tax on one class of pollutants (BOD) might reduce others as well, because some wastewater treatment processes reduce several pollutants simultaneously.

Levying a tax on effluents from POTWs and large industrial dischargers would ensure that the tax base included all of the large-volume dischargers with high levels of BOD. Such a broad-based tax, however, might raise constitutional issues about federal taxation of the local governments that operate POTWs. In that case, POTWs (or a federal authority) could collect the tax directly from polluters that discharge wastewater into municipal sewer systems.

REV-52-B Impose a Tax on Toxic Water Pollutants

	Added Revenues (Billions of dollars)
2002	0.2
2003	0.3
2004	0.2
2005	0.2
2006	0.2
2002-2006	1.1
2002-2011	2.1

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-52-A, REV-53-A, REV-53-B, REV-53-C, REV-53-D, and REV-55

RELATED CBO PUBLICATION:

Decreasing the Discharge of Bioaccumulative Toxic Water Pollutants: A Policy Analysis (Memorandum), December 1992.

Taxes on large facilities that discharge pollutants into the nation's waterways can both raise revenues and provide incentives for firms to reduce pollution cost-effectively (see option REV-52-A). Harmful levels of toxic chemicals and metals in the water are a key concern: because those substances do not readily break down in natural ecosystems, they may accumulate, threatening both the aquatic environment and human health. Toxic pollutants generally include organic chemicals (such as solvents and dioxins), metals (such as mercury and lead), and pesticides. In 1998, manufacturers in the United States discharged 234 million pounds of toxic substances directly into water and 273 million pounds indirectly into water through sewers. One option for increasing revenues and encouraging firms to reduce pollution is to impose a tax on such companies.

The Environmental Protection Agency (EPA) has devised a weighing method to indicate the toxicity of various pollutants. That system makes it possible to measure the quantities of different types of toxic pollutants by their "toxic pound equivalents," which the EPA defines as the pounds of a pollutant multiplied by its toxic weight. This option adopts tax rates developed by the Congressional Research Service (CRS) in a study on the discharges of manufacturing firms in 1987. CRS defined five categories of pollutants on the basis of their toxicities. The tax rates varied from 65 cents per pound for the least toxic category to $63.40 per pound for the most toxic. (Variable rates give firms an incentive to reduce their most toxic discharges.) Those rates correspond to a charge of $32.35 for the equivalent of each toxic pound. According to the EPA, the cost of controlling one additional toxic pound varies among industries, ranging from $1.50 to $606.00 (in 1991 dollars). The tax, therefore, could encourage industries and firms with low costs for abatement to reduce their toxic discharges. It would also raise $2.1 billion in revenues from 2002 through 2011.

Administering the tax would present few substantive difficulties. To assess tax payments, the Internal Revenue Service could use information from the EPA's Toxic Release Inventory (TRI) on toxic discharges by manufacturing firms. Alternatively, the EPA could collect the tax on behalf of the Internal Revenue Service. An important consideration, however, is the questionable accuracy of TRI data. The inventory contains self-reported data, and many facilities that are required to file reports either fail to file them or file inaccurate ones. To improve the accuracy of the TRI database and enforce payment of the tax, frequent auditing would be necessary.

REV-53-A Impose a Tax on Sulfur Dioxide Emissions

	Added Revenues (Billions of dollars)
2002	0.5
2003	0.8
2004	0.7
2005	0.7
2006	0.6
2002-2006	3.3
2006-2011	6.0

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-52-A, REV-52-B, REV-53-B, REV-53-C, REV-53-D, REV-54, and REV-55

RELATED CBO PUBLICATION:

Factors Affecting the Relative Success of EPA's NO_x Cap-and-Trade Program (Paper), June 1998.

Under the Clean Air Act, the Environmental Protection Agency (EPA) sets national standards for ambient air quality that are designed to protect the public's health and welfare. The EPA defines acceptable levels for six "criteria" air pollutants: sulfur dioxide (SO_2), nitrogen oxides (NO_x), ozone, particulate matter, carbon monoxide (CO), and lead. Along with emissions from natural sources, emissions of air pollutants from stationary sources (such as industrial facilities and commercial operations) and mobile sources (automobiles, trains, and airplanes) contribute to the ambient levels of those criteria pollutants.

Sulfur dioxide belongs to the family of sulfur oxide gases formed during the burning of fuel containing sulfur (mainly coal and oil) and during metal smelting and other industrial processes. Exposure to high concentrations of SO_2 may promote respiratory illnesses or aggravate cardiovascular disease. In addition, SO_2 and NO_x emissions are considered the main cause of acid rain, which the EPA believes degrades surface waters, damages forests and crops, and accelerates corrosion of buildings.

The Clean Air Act Amendments of 1990 adopted a program to control acid rain that introduced a market-based system of emission allowances to reduce SO_2 emissions. An emission allowance is a limited authorization to emit a ton of SO_2. The EPA allots tradable allowances to affected electric utilities according to the utilities' past fuel use and statutory limits on emissions. Once the allowances are allotted, the act requires that annual SO_2 emissions not exceed the number of allowances held by each utility plant. Firms may trade allowances, bank them for future use, or purchase them through periodic auctions held by the EPA. Firms with relatively low costs for abating pollution have an economic incentive to reduce their emissions and sell surplus allowances to firms that have relatively high abatement costs.

This option would tax emissions of SO_2 from stationary sources not already covered under the acid rain program. If the federal government imposed a tax of $200 per ton of SO_2 emissions from those sources, it would raise about $6 billion over the 2002-2011 period.

With some minor exceptions, firms that are subject to air pollution standards must incur the costs of reducing emissions to comply with regulations. Most firms that would be affected by this tax do not, however, pay taxes or fees on emissions that the Clean Air Act still allows. Major sources of pollutants do pay user fees to cover the costs of a program providing operating permits (stating which air pollutants a source is allowed to emit) under the 1990 amendments to the act. Basing the tax described in this option on the terms granted in the permits would minimize the Internal Revenue Service's costs of administering the option.

In general, taxes on emissions can help reduce pollution in a cost-effective (least-cost) manner. Such taxes encourage firms with the lowest costs for abatement to reduce their emissions and, at the same time, allow firms with high abatement costs to continue emitting pollutants and paying the tax. Specifically, firms would have an incentive to reduce the taxed pollutant up to the point at which the tax just equals the cost of eliminating an additional ton of pollutant. This option, as well as options REV-53-B, REV-53-C, and REV-53-D, would base tax rates on the estimated average cost of reducing that additional ton. Consequently, some firms with lower-than-average costs for abatement might reduce their pollution levels below the allowable standards. Opponents of this kind of tax, however, argue that it would impose a burden on many firms that already incur costs to comply with current regulations on emissions.

REV-53-B Impose a Tax on Nitrogen Oxide Emissions

	Added Revenues (Billions of dollars)
2002	6.8
2003	9.8
2004	9.3
2005	9.0
2006	8.8
2002-2006	43.7
2002-2011	85.7

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-52-A, REV-52-B, REV-53-A, REV-53-C, REV-53-D, REV-54, and REV-55

RELATED CBO PUBLICATION:

Factors Affecting the Relative Success of EPA's NO_x Cap-and-Trade Program (Paper), June 1998.

Nitrogen oxides (NO_x) usually enter the air as the result of high-temperature combustion processes such as those found in automobiles and power plants. Emissions of NO_x play an important role in the atmospheric reactions that generate ground-level ozone (smog) and acid rain. Moreover, the Environmental Protection Agency (EPA) believes that NO_x can irritate the lungs and lower resistance to respiratory infections such as influenza. Nitrogen oxides and pollutants formed from them can be transported over long distances, so problems associated with NO_x are not confined to areas where they are emitted.

The Clean Air Act requires states to implement programs to reduce ground-level ozone. Because of the transportability of NO_x and ozone, the act requires upwind states to establish programs that will help downwind states meet statutory standards. In 1998, the EPA promulgated the Ozone Transport Rule, which required 22 northeastern states and the District of Columbia to revise their programs to further reduce NO_x emissions. The rule did not mandate specific methods but instead gave each affected state a target for NO_x emissions. The goal of the rule was to have programs in place by 2003 that would reduce NO_x emissions by about 1.2 million tons in the affected states by 2007. Implementation of the rule was delayed for about a year because of court challenges but is now going forward.

Another way to help control NO_x would be to tax emissions from stationary sources such as industrial facilities and commercial operations. Controlling NO_x from those sources costs between $600 and $10,000 per ton of emissions abated. Imposing a tax of $1,500 per ton on NO_x emissions from stationary sources would encourage facilities with lower costs for abatement to try to further reduce their polluting. (For example, firms might adopt currently available techniques for abatement whose capitalized costs were lower than the tax they would otherwise pay.) A tax of $1,500 per ton would raise over $85 billion from 2002 to 2011.

In guidelines that the EPA provided to the affected states for implementing the Ozone Transport Rule, it encouraged states to set up a regional-level program for trading NO_x allowances similar to the national trading program for sulfur dioxide allowances (see option REV-53-A). Such a program could be structured to encourage firms with relatively low costs for abatement to reduce their emissions and sell surplus NO_x allowances to firms with relatively high pollution-abatement costs. If a regional program for trading allowances was put into place, another option would be to tax only the stationary sources of NO_x that did not participate in the program. If the rate of participation in the program was high, such a tax would raise about $39 billion over the 2002-2011 period.

Proponents of taxing pollution argue that such taxes discourage activities that impose costs on society and could increase the level of control in a cost-effective (least-cost) manner. Further, the lower emissions that such taxes produced would increase the welfare of society if the additional costs for abatement were less than or equal to the social benefits from reduced pollution. Opponents argue, however, that such a tax would impose an additional burden on many firms that are already incurring costs to comply with current regulations. They also contend that the tax's added cost to firms might be greater than the added benefits that society would gain from less pollution. Arriving at some certainty about that issue is difficult, though, because of the questions associated with methods for estimating the additional social benefits from reducing pollution levels.

REV-53-C Impose a Tax on Emissions of Coarse Particulate Matter

	Added Revenues (Billions of dollars)
2002	0.5
2003	0.7
2004	0.7
2005	0.6
2006	0.6
2002-2006	3.1
2002-2011	6.1

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-52-A, REV-52-B, REV-53-A, REV-53-B, REV-53-D, REV-54, and REV-55

Particulate matter (PM) is the general term used for a mixture of solid particles and liquid droplets found in the air. Those particles come in a wide range of sizes: fine particles are less than 2.5 micrometers in diameter, and coarse particles are larger than 2.5 micrometers. The particles originate from various manmade stationary and mobile sources as well as from nature. Fine particles result from fuel combustion in motor vehicles, power generation, and industrial facilities as well as from residential fireplaces and wood stoves. Coarse particles are generally emitted from power plants and factories and such sources as vehicles traveling on unpaved roads, materials handling, crushing and grinding operations, and wind-blown dust. Some particles are emitted directly from such sources as smokestacks and cars. In other cases, sulfur dioxide (SO_2), nitrogen oxides (NO_x), and volatile organic compounds interact with other compounds in the air to form PM.

According to Environmental Protection Agency (EPA) studies, emissions of PM (alone or combined with other air pollutants) are linked to some adverse effects on people's health. For example, particulate matter can carry heavy metals and cancer-causing organic compounds into the lungs, increasing the incidence and severity of respiratory diseases. Other effects on health may include increased hospital admissions and visits to the emergency room for respiratory-related illnesses and chronic bronchitis.

In 1997, the EPA, under the authority of the Clean Air Act, finalized air quality standards for fine particulate matter and revised those for ozone and coarse particulate matter. But legal challenges ensued, and the standards have yet to be implemented. One option for controlling particulate matter and increasing revenues at the same time would be to tax emissions of coarse PM from stationary sources. A tax of $500 per ton of coarse PM emitted would raise about $6 billion from 2002 through 2011.

Taxing emissions of coarse PM would have advantages and disadvantages as a method for controlling pollution. On the plus side, taxes on emissions can help reduce pollution in a cost-effective manner (see option REV-53-A). For example, such taxes might lead some electric utilities and manufacturing plants to install improved electrostatic precipitators, wet scrubbers, or other equipment to reduce emissions and lower their tax burden. Reductions in emissions spurred by the tax would be economically efficient (lead to a higher level of economic activity) if the additional costs for abatement were lower than the benefits society derived from less pollution. Moreover, since a permit system is already in place for emissions of coarse PM, the tax could be implemented and administered relatively easily, using an approach similar to that proposed for emissions of sulfur dioxide (discussed in option REV-53-A) and nitrogen oxides (described in option REV-53-B).

On the minus side, opponents of a tax on emissions of coarse PM argue that it would impose an excessive burden on firms that already incur costs to comply with current standards. Furthermore, a tax on coarse PM might be regressive—meaning that it would fall more heavily on lower-income families than on higher-income ones—if it eventually raised the price of energy.

REV-53-D Impose a Tax on Volatile Organic Compounds

	Added Revenues (Billions of dollars)
2002	8.4
2003	12.0
2004	11.2
2005	10.6
2006	10.3
2002-2006	52.5
2002-2011	102.0

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-52-A, REV-52-B, REV-53-A, REV-53-B, REV-53-C, REV-54, and REV-55

Pollution in the form of ground-level ozone is a pervasive problem in many areas of the United States. Ozone is not emitted directly into the air; rather, it is produced by the reaction of volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in the presence of heat and sunlight. Ozone occurs naturally in the stratosphere (the upper atmosphere) and provides a protective layer high above the Earth. At ground level, however, ozone is the prime ingredient of smog. Short-term exposures (one to three hours) to ambient concentrations of ozone have been linked to increased hospital admissions and emergency room visits for respiratory ailments. Repeated exposure to ozone may make people more susceptible to respiratory infections and inflammation of the lungs.

To control pollution from ozone, the Environmental Protection Agency (EPA) has traditionally focused on reducing emissions of VOCs (and, more recently, of NO_x). VOCs include chemicals such as benzene, toluene, methylene chloride, and methyl chloroform; they are released by burning fuel (gasoline, oil, wood, coal, natural gas, and the like) or using solvents, paints, glues, and other products. One option for reducing pollution from ozone is to tax emissions of VOCs from stationary sources, which range from huge industrial facilities, such as chemical plants, petroleum refineries, and coke ovens, to small sources, such as bakeries and dry cleaners. (See options REV-53-B and REV-54 on taxing emissions of NO_x and emissions from mobile sources, respectively.) The vast number and diversity of stationary sources make it difficult to estimate the amount of emissions they produce and the cost of abating that pollution. A tax of $2,100 per ton on all VOC emissions from stationary sources could promote abatement and would generate about $102 billion in revenues from 2002 through 2011.

The advantage of a broad-based tax on VOCs is that it would affect both large and small sources of the compounds. The EPA estimates that small sources account for a large portion of the emissions from stationary sources. However, because stationary facilities emitting less than 2.5 tons of VOCs per year are not currently subject to federal regulation, a broad-based tax on VOCs would be administratively harder to implement than a tax on the large sources alone. (States currently survey the large facilities and then turn over their data on emissions to the EPA.) Imposing the tax on small sources of VOCs through technology-based estimates of emissions rather than measured emissions would reduce administrative costs; at the same time, it would also somewhat reduce the incentive to emit less. A disadvantage of such a broad-based tax, however, is that it may be regressive, falling more heavily on lower-income families than on higher-income households.

REV-54 Impose a One-Time Tax on Emissions from New Automobiles and Light Trucks

	Added Revenues (Billions of dollars)
2002	2.1
2003	3.1
2004	3.1
2005	3.1
2006	3.1
2002-2006	14.5
2002-2011	30.0

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

REV-53-A, REV-53-B, REV-53-C, and REV-53-D

The Clean Air Act Amendments of 1990 strengthened the provisions of the earlier law that sought to reduce emissions from mobile sources of pollution. The amendments raised the tailpipe standards for cars, buses, and trucks; they expanded inspection and maintenance programs to include more regions with pollution problems and to promote more stringent testing; and they introduced several regulations to reduce air pollution from mobile sources, including regulations for selling improved gasoline formulations in some polluted cities to reduce pollutant levels. In addition, the amendments provided new programs that tighten emission standards for vehicles to encourage the development of even cleaner cars and fuels.

Despite progress to date in controlling air pollution from motor vehicles, mobile sources continue to significantly affect the nation's air quality. Nationwide, highway motor vehicles on average account for over one-quarter of all emissions of volatile organic compounds (VOCs), almost one-third of nitrogen oxide (NO_x) emissions, and about 60 percent of carbon monoxide emissions. Taxing emissions of those pollutants from mobile sources could help reduce them by providing an additional incentive for consumers to purchase cleaner cars and trucks. One option would be to impose a one-time tax on new automobiles and light trucks. The tax could be based on the grams of VOCs (measured in grams of hydrocarbons), NO_x, and carbon monoxide that a vehicle emitted per mile as estimated by the emissions tests that the Environmental Protection Agency requires for every new vehicle. The tax could be administered like the current excise tax on luxury vehicles: the auto dealer would collect the tax on behalf of the Internal Revenue Service from the vehicle's purchaser.

Such a tax, which would average $275 for each new passenger car and light-duty truck sold, could raise about $30 billion in revenues from 2002 through 2011. A disadvantage of the option, however, is that it leaves out older vehicles, which account for a larger share of emissions from mobile sources than do new vehicles. A further drawback is that a one-time emissions tax would raise the prices of new vehicles and might therefore encourage people to delay purchasing them.

REV-55 Eliminate Tax Credits for Producing Unconventional Fuels and Generating Electricity from Renewable Energy Sources

	Added Revenues (Billions of dollars)
2002	1.1
2003	1.0
2004	0.7
2005	0.7
2006	0.8
2002-2006	4.3
2002-2011	5.5

SOURCE: Joint Committee on Taxation.

RELATED OPTIONS:

270-01, 270-03, 270-08, REV-52-B, REV-53-A, REV-53-B, REV-53-C, and REV-53-D

Under current law, firms that produce unconventional fuels or generate electricity from certain renewable forms of energy can claim a credit against their income taxes. Section 29 of the Internal Revenue Code offers credits to businesses that produce natural gas from coal seams (know as coalbed methane), oil from shale and tar sands, gas from geopressured brine and Devonian shale, energy from biomass (including landfill methane), and synthetic fuels from coal. Section 45 of the code offers credits to producers of electricity from wind, closed-loop biomass (including landfill methane), and poultry waste.

The tax credits are essentially subsidies from the federal government (in the form of lower taxes), which may prompt some businesses to charge purchasers less for energy from those sources. Lower prices, in turn, may encourage people to substitute those sources for more conventional forms of energy. But little substitution has actually taken place, and only coalbed methane, landfill methane, and wind power have been commercially viable energy sources. Eliminating the credits would increase revenues by $5.5 billion over the 2002-2011 period.

The credits were initially enacted to promote energy security and efficiency (by encouraging consumers to use alternatives to imported petroleum as well as energy that would otherwise be lost) and to foster a cleaner environment (by encouraging the use of nonpolluting sources of energy). But proponents of eliminating the credits point out that the energy sources that benefit from them contribute very little to meeting the nation's energy requirements. Moreover, the limited success that markets for coalbed methane, landfill methane, and wind power have had is attributable more to such factors as technological advances, rising natural gas prices, other federal programs (such as the Environmental Protection Agency's New Source Performance Standards), and state subsidies than to the credits. Indeed, critics claim that, far from benefiting the environment, production of energy from some of the eligible sources causes environmental problems. (For example, wind rotors may endanger migratory birds, and coalbed methane production may harm groundwater.) In addition, the credits may reduce economic efficiency by encouraging the use of relatively expensive fuels. Finally, proponents of eliminating the credits believe that the goal of promoting a cleaner environment would be more efficiently achieved by imposing taxes on pollutants equal to the damage they cause.

Advocates of retaining the tax credits argue that they remain an important part of the national policy to promote development of new sources of energy. Moreover, they believe that the credits help curb wasteful and polluting practices. For example, capturing landfill methane as a fuel rather than venting it into the air reduces odors and other hazards associated with emissions of landfill gas. And encouraging the use of poultry waste as fuel may help reduce the negative consequences of traditional disposal, such as water pollution and unpleasant odors. To the extent that the tax credits encourage the use of renewable sources of energy, they may also help reduce global warming.

Appendixes

Appendix A

Using Information on Agencies' Performance in Evaluating Budget Options

The Government Performance and Results Act of 1993 (GPRA) seeks to make government more accountable and to improve the way federal agencies manage their programs and carry out their activities. Primarily, the act requires agencies to plan more effectively and to disclose more information about program performance. In 2000, as the law directed, federal agencies issued their first performance reports.

GPRA states that one intended use of such material is to improve decisionmaking about agencies' funding.[1] With that goal in mind, the Congressional Budget Office (CBO) reviewed GPRA reports for information that could help it analyze the various spending options in this volume and possible new options. But CBO analysts found little in the reports to guide the Congress in making choices about spending. That result is not entirely surprising in light of the enormous difficulty of measuring, monitoring, and evaluating how well federal agencies and programs perform. Nevertheless, the law requires agencies to produce data that focus on results, and agencies are working to improve the way they measure and assess the effects of their activities. Future reports are likely to contain more information that would be useful in budgeting exercises such as CBO's.

1. GPRA also requires the Office of Management and Budget to select five agencies and consider how their performance and budgeting might be more closely linked.

The Government Performance and Results Act

Setting goals and measuring performance can focus an agency's efforts, motivate its employees and managers, offer a basis for holding its employees accountable for how the agency performs, help coordinate activities among its different parts, and signal weaknesses in its operations. To achieve those ends, GPRA requires managers to establish goals and objectives for an agency's programs and prepare strategic plans for achieving them. It also directs managers to develop annual performance plans that describe how they will measure whether the agency has met its chosen goals and follow-up reports that review the agency's successes and failures. Of the goals and measures of performance used, some must tie directly to results—they must link what agencies do with the intended and measurable effects those actions have on people's lives.

GPRA is the most recent in a series of large-scale reforms attempting to improve the management of federal agencies. Most of those previous efforts, such as zero-based budgeting, management by objectives, and the program-planning-budgeting system, are now generally considered failures. In contrast to earlier reforms, however, GPRA is not exclusively an initiative within the executive branch but has extensively involved the Congress. It is unique because it focuses on results and carries the force of law. Given

its legal foundation, GPRA may prove unique in its longevity as well, in comparison with past efforts to improve agencies' management.

Using Information from GPRA Reports in Budgeting

In the reports agencies prepared in response to GPRA, CBO found a range of information that could contribute to budgeting. Most of the data reported levels of agencies' activity or how well activities were performed. For example, an agency responsible for public health reported on both the number of outbreaks of certain illnesses that it investigated and the number of times it successfully identified the cause of the outbreak. That kind of information can aid budgeting by indicating levels of effort and by reassuring the Congress that agencies are using resources as it intended.

Many of the agencies' reports also focused on results, as the law requires. Good information on results helps budgeting by showing what works and what does not and allows decisionmakers to direct resources toward the most productive and most effective uses. By shedding light on the effects of federal activities, good information also clarifies the likely consequences of increasing or deceasing spending.

To be most useful for decisions about the budget, including decisions about the options in this volume, information on results must link an agency's actions to those outcomes. But in many cases, results have multiple causes, some of which may be unrelated to the activities of federal programs. (For example, reductions in crime may have as much to do with demographic changes and the strength of the economy as with the efforts of a federal crime-prevention program.) Information on results is difficult to use in weighing budgetary options without some indication of how the agency's efforts contributed to those outcomes.

Thus, even in instances in which GPRA reports included information on results, that information was of limited use to CBO because it did not clearly connect the agency's activities to those outcomes. A law enforcement agency, for example, adopted the goal of reducing the demand for drugs—clearly a results-oriented objective. But the agency offered no evidence of how (or even if) such activities as disseminating information on prevention programs would help it achieve that goal. Another agency, which had set a goal of increasing the number of minority-owned businesses, did not distinguish its contribution from other significant factors, including greater availability of investment capital from nonfederal sources.

Isolating and identifying what a federal program contributes to particular outcomes is no small challenge. For some activities, the task may be impossible; for others, rough inferences about cause and effect may be all that can be done. Without such links, however, information about performance has limited uses. Worse, when agencies claim credit for all improvements, they misinform decisionmakers and undermine the credibility of their reports.

In analyzing budget options, CBO could have used information about which programs and policies failed as well as which succeeded. But agencies apparently, if understandably, were reluctant to report on and analyze efforts for which they could not claim success. In some cases, they appeared to define goals and select measures of performance that guaranteed success or disguised failure. (One agency, for example, defined goals as met if it accomplished the majority or the most important of the tasks associated with each objective.) In fact, an effort that fails or that achieves only some of its goals can produce valuable information about cause and effect and can suggest potentially fruitful modifications to policy. But it can do so only if the agency openly reports its performance on all desired outcomes.

Discussing the reviews of two programs in more detail illustrates the difficulties CBO had in trying to find information on performance in the GPRA reports that would be useful in budgeting. Material from the reports on the Department of Education's (ED's) new Class-Size Reduction Program and the Department of Transportation's (DOT's) Intelligent Transportation Systems program is similar to the information in many of the reports that CBO considered: it lacked the direct link to results that would have helped analysts and lawmakers to assess budgetary alternatives.

Class-Size Reduction

The Class-Size Reduction Program provides grants to localities to improve students' performance by reducing the size of classes in the lower grades and by enhancing the quality of teaching. States received their first grants in 2000; program funding for that year totaled $1.3 billion.

The initiative has been the focus of a continuing debate, in large part centering on how class size affects learning.[2] Proponents argue that smaller classes improve students' performance. Opponents question that effect and argue that other strategies, such as one-on-one tutoring, not only help students perform better but operate at a fraction of the cost of the Class-Size Reduction Program. Other research points to the importance of such factors as parents' involvement in their children's education in determining how well students do in school.

Because the class-size program is new, the section in ED's report covering its performance in 1999 contained little of the information that CBO was looking for to help it evaluate budget options about reducing class sizes. The report indicated that the agency had already begun to examine how smaller classes affect performance in selected localities. But whether (or how) future reports would link programs to results was unclear.

Future reports would be most helpful if they could:

- o Establish clear links between the program and any changes in how well students performed;
- o Compare the program's effects with those of alternative programs;
- o Distinguish teachers who were hired directly as a result of the program from those who would have been hired anyway with state and local funds; and
- o Assess to what extent school districts retained teachers who were added as a result of the program.

2. Option 500-03 in this volume would eliminate the grant program. Chapter 2 discusses class-size reduction in some detail.

Intelligent Transportation Systems

Intelligent transportation systems (ITS) use new communications and information technology to reduce traffic congestion and improve safety. Examples of such systems include electronic toll collection, which enables users of toll roads to pay without stopping, and coordinated traffic-signal systems, which can improve the flow of traffic. Advocates of ITS argue that it offers a cost-effective alternative to constructing more highways. Opponents question the effectiveness of many ITS approaches.

The Clinton Administration's budget for 2001 requested $338 million for the federal ITS program, which provides funding to study and deploy such systems. That amount is more than $100 million higher than the 2000 level; the additional funds are intended to expand use of ITS in rural areas and in commercial trucking. Chapter 3 of this volume discusses added funding for ITS and other transportation programs.

Information on whether the federal ITS program has helped ease congestion and improve safety would have been useful in weighing increased spending for ITS. Instead, the applicable section of DOT's performance report focused on integrating federal ITS efforts with those of state and local governments. Scattered references in the report's appendixes mentioned reductions in accidents attributable to ITS, but the report did not document those results and did not connect federal funding with reduced travel times or increased safety.

Difficulties in Measuring the Performance of Federal Activities

Agencies face substantial challenges in setting goals and measuring their performance. To begin with, agreeing on a program's goals and objectives, as

GPRA requires, may be difficult. In addition, decisionmakers seldom agree about how to rank those goals. The Food Stamp program is one example. For some agency officials and some Members of Congress, the program's primary objective is to provide food and nutrition to the nation's poor. For others, its principal aim is to increase the demand for, and help stabilize the prices of, agricultural products. Policymakers may also disagree about whether programs should be concerned primarily with cost or with the level of service they provide. The inability to agree on a program's priorities makes it difficult to evaluate performance.

A further challenge to goal setting and measurement is that federal programs vary widely, and thus the hurdles agencies face in those tasks also vary in type and difficulty. Grant programs present special problems because the funded activity is only partly under federal control. For example, Medicaid allows the states some flexibility in determining what services to provide and who will be eligible for them. Similarly, the Temporary Assistance for Needy Families program waives federal rules for some states to increase their flexibility in administering their programs.

Yet even with agreement on goals and objectives, obstacles remain in measuring how well (or if) agencies achieve them.[3] As previously described, devising the measures that would be most helpful in budgeting—those that capture results—is particularly challenging. Agencies must also find the resources to evaluate their activities, a fundamental part of preparing good performance reports. Producing information that can be widely applied in budgeting for and managing agencies' activities may take more time.

Finally, agencies face incentives that discourage them from fully and openly disclosing how well or how poorly they perform. Federal employees and managers may prefer to report only favorable results if they fear that doing otherwise would bring budget cuts or other undesired consequences. Further, agencies may report in a way that accommodates the interests of some decisionmakers who prefer to receive only information that supports a particular position on policy.

GPRA is the law, however, and some agencies have already made substantial progress in overcoming the difficulties inherent in setting goals and objectives and developing measures of their performance. Many of the limitations CBO found in current GPRA reports may simply arise from a lack of time and experience in meeting the challenges that the law presents. Planning under way at several agencies suggests that reporting can be expected to improve over the long term.

3. For a further discussion of hindrances to using and developing performance measures, see Congressional Budget Office, *Using Performance Measures in the Federal Budget Process,* CBO Paper (July 1993).

Appendix B

Scorekeeping Guidelines

These budget scorekeeping guidelines are to be used by the House and Senate Budget Committees, the Congressional Budget Office, and the Office of Management and Budget (the "scorekeepers") in measuring compliance with the Congressional Budget Act of 1974 (CBA), as amended, and Gramm-Rudman-Hollings (GRH), as amended.[1] The purpose of the guidelines is to ensure that the scorekeepers measure the effects of legislation on the deficit consistent with established scorekeeping conventions and with the specific requirements in those Acts regarding discretionary spending, direct spending, and receipts. These rules shall be reviewed annually by the scorekeepers and revised as necessary to adhere to the purpose. These rules shall not be changed unless all of the scorekeepers agree. New accounts or activities shall be classified only after consultation among the scorekeepers. Accounts and activities shall not be reclassified unless all of the scorekeepers agree.

1. Classification of appropriations.

A list of appropriations that are normally enacted in appropriations acts is included in the conference report of the Balanced Budget Act of 1997 (House Report 105-217, pp. 1014-1053). The list identifies appropriated entitlements and other mandatory spending in appropriations acts, and it identifies discretionary appropriations by category.

2. Outlays prior.

Outlays from prior-year appropriations will be classified consistent with the discretionary/mandatory classification of the account from which the outlays occur.

3. Direct spending programs.

Entitlements and other mandatory programs (including offsetting receipts) will be scored at current law levels as defined in section 257 of GRH, unless Congressional action modifies the authorization legislation. Substantive changes to or restrictions on entitlement law or other mandatory spending law in appropriations laws will be scored against the Appropriations Committee's section 302(b) allocations in the House and the Senate. For the purpose of CBA scoring, direct spending savings that are included in both an appropriations bill and a reconciliation bill will be scored to the reconciliation bill and not to the appropriations bill. For scoring under sections 251 or 252 of GRH, such provisions will be scored to the first bill enacted.

4. Transfer of budget authority from a mandatory account to a discretionary account.

The transfer of budget authority to a discretionary account will be scored as an increase in discretionary budget authority and outlays in the gaining account. The losing account will not show an offsetting reduction if the account is an entitlement or mandatory program.

1. These guidelines—with the exception of item 1, which has been edited slightly, and item 16, which was agreed to after 1997—are reprinted from U.S. House of Representatives, *Balanced Budget Act of 1997*, conference report to accompany H.R. 2015, Report 105-217 (July 30, 1997), pp. 1007-1012.

5. Permissive transfer authority.

Permissive transfers will be assumed to occur (in full or in part) unless sufficient evidence exists to the contrary. Outlays from such transfers will be estimated based on the best information available, primarily historical experience and, where applicable, indications of Executive or Congressional intent.

This guideline will apply both to specific transfers (transfers where the gaining and losing accounts and the amounts subject to transfer can be ascertained) and general transfer authority.

6. Reappropriations.

Reappropriations of expiring balances of budget authority will be scored as new budget authority in the fiscal year in which the balances become newly available.

7. Advance appropriations.

Advance appropriations of budget authority will be scored as new budget authority in the fiscal year in which the funds become newly available for obligation, not when the appropriations are enacted.

8. Rescissions and transfers of unobligated balances.

Rescissions of unobligated balances will be scored as reductions in current budget authority and outlays in the year the money is rescinded.

Transfers of unobligated balances will be scored as reductions in current budget authority and outlays in the account from which the funds are being transferred, and as increases in budget authority and outlays in the account to which these funds are being transferred.

In certain instances, these transactions will result in a net negative budget authority amount in the source accounts. For purposes of section 257 of GRH, such amounts of budget authority will be projected at zero. Outlay estimates for both the transferring and receiving accounts will be based on the spending patterns appropriate to the respective accounts.

9. Delay of obligations.

Appropriations acts specify a date when funds will become available for obligation. It is this date that determines the year for which new budget authority is scored. In the absence of such a date, the act is assumed to be effective upon enactment.

If a new appropriation provides that a portion of the budget authority shall not be available for obligation until a future fiscal year, that portion shall be treated as an advance appropriation of budget authority. If a law defers existing budget authority (or unobligated balances) from a year in which it was available for obligation to a year in which it was not available for obligation, that law shall be scored as a rescission in the current year and a reappropriation in the year in which obligational authority is extended.

10. Contingent legislation.

If the authority to obligate is contingent upon enactment of a subsequent appropriation, new budget authority and outlays will be scored with the subsequent appropriation. If a discretionary appropriation is contingent on the enactment of a subsequent authorization, new budget authority and outlays will be scored with the appropriation. If a discretionary appropriation is contingent on the fulfillment of some action by the Executive branch or some other event normally estimated, new budget authority will be scored with the appropriation, and outlays will be estimated based on the best information about when (or if) the contingency will be met. If direct spending legislation is contingent on the fulfillment of some action by the Executive branch or some other event normally estimated, new budget authority and outlays will be scored based on the best information about when (or if) the contingency will be met. Non-lawmaking contingencies within the control of the Congress are not scoreable events.

11. Scoring purchases, lease-purchases, capital leases, and operating leases.

When a law provides the authority for an agency to enter into a contract for the purchase, lease-purchase, capital lease, or operating lease of an asset, budget authority and outlays will be scored as follows:

For lease-purchases and capital leases, budget authority will be scored against the legislation in the year in which the budget authority is first made available in the amount of the estimated net present value of the government's total estimated legal obligations over the life of the contract, except for imputed interest costs calculated at Treasury rates for marketable debt instruments of similar maturity to the lease period and identifiable annual operating expenses that would be paid by the Government as owner (such as utilities, maintenance, and insurance). Property taxes will not be considered to be an operating cost. Imputed interest costs will be classified as mandatory and will not be scored against the legislation or for the current level but will count for other purposes.

For operating leases, budget authority will be scored against the legislation in the year in which the budget authority is first made available in the amount necessary to cover the government's legal obligations. The amount scored will include the estimated total payments expected to arise under the full term of a lease contract or, if the contract will include a cancellation clause, an amount sufficient to cover the lease payments for the first fiscal year during which the contract is in effect, plus an amount sufficient to cover the costs associated with cancellation of the contract. For funds that are self-insuring under existing authority, only budget authority to cover the annual lease payment is required to be scored.

Outlays for a lease-purchase in which the Federal government assumes substantial risk—for example, through an explicit government guarantee of third party financing—will be spread across the period during which the contractor constructs, manufactures, or purchases the asset. Outlays for an operating lease, a capital lease, or a lease-purchase in which the private sector retains substantial risk, will be spread across the lease period. In all cases, the total amount of outlays scored over time against legislation will equal the amount of budget authority scored against that legislation.

No special rules apply to scoring purchases of assets (whether the asset is existing or is to be manufactured or constructed). Budget authority is scored in the year in which the authority to purchase is first made available in the amount of the government's estimated legal obligations. Outlays scored will equal the estimated disbursements by the government based on the particular purchase arrangement, and over time will equal the amount of budget authority scored against that legislation.

Existing contracts will not be rescored.

To distinguish lease purchases and capital leases from operating leases, the following criteria will be used for defining an operating lease:

- o Ownership of the asset remains with the lessor during the term of the lease and is not transferred to the Government at or shortly after the end of the lease period.
- o The lease does not contain a bargain-price purchase option.
- o The lease term does not exceed 75 percent of the estimated economic lifetime of the asset.
- o The present value of the minimum lease payments over the life of the lease does not exceed 90 percent of the fair market value of the asset at the inception of the lease.
- o The asset is a general purpose asset rather than being for a special purpose of the Government and is not built to unique specification for the Government as lessee.
- o There is a private-sector market for the asset.

Risks of ownership of the asset should remain with the lessor.

Risk is defined in terms of how governmental in nature the project is. If a project is less governmental in nature, the private-sector risk is considered to be higher. To evaluate the level of private-sector risk associated with a lease-purchase, legislation and lease-purchase contracts will be considered against the following type of illustrative criteria, which indicate ways in which the project is less governmental:

- o There should be no provision of Government financing and no explicit government guarantee of third party financing.

- o Risks of ownership of the asset should remain with the lessor unless the government was at fault for such losses.

- o The asset should be a general purpose asset rather than for a special purpose of the government and should not be built to unique specification for the government as lessee.

- o There should be a private-sector market for the asset.

- o The project should not be constructed on government land.

Language that attempts to waive the Anti-Deficiency Act, or to limit the amount or timing of obligations recorded, does not change the government's obligations or obligational authority, and so will not affect the scoring of budget authority or outlays.

Unless language that authorizes a project clearly states that no obligations are allowed unless budget authority is provided specifically for that project in an appropriations bill in advance of the obligation, the legislation will be interpreted as providing obligation authority, in an amount to be estimated by the scorekeepers.

12. Write-offs of uncashed checks, unredeemed food stamps, and similar instruments.

Exceptional write-offs of uncashed checks, unredeemed food stamps, and similar instruments (i.e., write-offs of cumulative balances that have built up over several years or have been on the books for several years) shall be scored as an adjustment to the means of financing the deficit rather than as an offset. An estimate of write-offs or similar adjustments that are part of a continuing routine process shall be netted against outlays in the year in which the write-off will occur. Such write-offs shall be recorded in the account in which the outlay was originally recorded.

13. Reclassification after an agreement.

Except to the extent assumed in a budget agreement, a law that has the effect of altering the classification or scoring of spending and revenues (e.g., from discretionary to mandatory, special fund to revolving fund, on-budget to off-budget, revenue to offsetting receipt), will not be scored as reclassified for the purpose of enforcing a budget agreement.

14. Scoring of receipt increases or direct spending reductions for additional administrative or program management expenses.

No increase in receipts or decrease in direct spending will be scored as a result of provisions of a law that provides direct spending for administrative or program management activities.

15. Asset sales.

If the net financial cost to the government of an asset sale is zero or negative (a savings), the amount scored shall be the estimated change in receipts and mandatory outlays in each fiscal year on a cash basis. If the cost to the government is positive (a loss), the proceeds from the sale shall not be scored for the purposes of the CBA or GRH.

The net financial cost to the federal government of an asset sale shall be the net present value of the cash flows from:

(1) estimated proceeds from the asset sale;

(2) the net effect on federal revenues, if any, based on special tax treatments specified in the legislation;

(3) the loss of future offsetting receipts that would otherwise be collected under continued government ownership (using baseline levels for the projection period and estimated levels thereafter); and

(4) changes in future spending, both discretionary and mandatory, from levels that would otherwise occur under continued government ownership (using baseline levels for the projection period and at levels estimated to be necessary to operate and maintain the asset thereafter).

The discount rate used to estimate the net present value shall be the average interest rate on market-

able Treasury securities of similar maturity to the expected remaining useful life of the asset for which the estimate is being made, plus 2 percentage points to reflect the economic effects of continued ownership by the government.

16. Indefinite borrowing authority and limits on outstanding debt.

If legislation imposes or changes a limit on outstanding debt for an account financed by indefinite budget authority in the form of borrowing authority, the legislation will be scored as changing budget authority only if and to the extent the imposition of a limit or the change in the existing limit alters the estimated amount of obligations that will be incurred.

Appendix C

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All divisions of the Congressional Budget Office (CBO) contributed to this report, which was coordinated by Arlene Holen. The Budget Analysis Division, under the supervision of Robert Sunshine and Peter Fontaine, prepared the budget estimates that appear throughout the volume. The staff of the Joint Committee on Taxation prepared most of the revenue estimates. Many people at CBO helped prepare the report:

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